How to use this file...(Operators Manuals)

Instructions for
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* Face Trim

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• The body of the manual is identical, regardless of the cover used.
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Simplicity MASSEY FERGUSON AGCO ALLIS

Replacement

OPERATOR'S MANUAL

Regent / 500 / 2500 Series

12HP Gear Tractors

Mfg. No.	Description
1692401	Regent, 12HP Gear
1692409	512G, 12HP Gear
1692497	2512G, 12HP Gear

12HP Hydro Tractors

Mfg. No.	Description
1692403	Regent, 12HP Hydro
1692412	512H, 12HP Hydro
1692495	2512H, 12HP Hydro

36" Mower Decks

Mfg. No.	Description
1692366	36" Mower Deck
1692410	36" Mower Deck

Note: This Replacement Operator's Manual is a reprint of a manual no longer in production, but contains the same information as the Operator's Manual furnished with the original tractor.

1714293-02
1714302-02
1714390-02

Rev 11/2000
TP 100-1423-02-RG-SMA

MANUFACTURING, INC.
500 N Spring Street / PO Box 997
Port Washington, WI 53074-0997

www.simplicitymfg.com

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NOTE: In this manual, "left" and "right" are referred to as seen from the operating position.

⚠ WARNING

Engine exhaust from this product contains chemicals know, in certain quantities, to cause cancer, birth defects, or other reproductive harm.

Tractor & Mower Identification

IDENTIFICATION NUMBERS

Record your model number, manufacturer number and engine serial number in the space provided for easy reference. The tractor I.D. tag is located on the left-side, front of the frame, as shown below. The mower deck I.D. tag is also on the left side, on top of the mower deck.

MODEL REFERENCE

Model Number:

Manufacturer Number:

Engine I.D. Number:

Dealer Name/Date Purchased:

Refer to the engine Owner's Manual for location of engine serial number.

Be sure to fill out and return the Warranty Registration Card supplied with your tractor.

This manual covers the following models.

Model	Mfg. No.
12.5 Gear	1692401 1692405 1692409 1692493
12 Hydro	1692403 1692407 1692412 1692495
36" Mower Deck	1692366 1692410

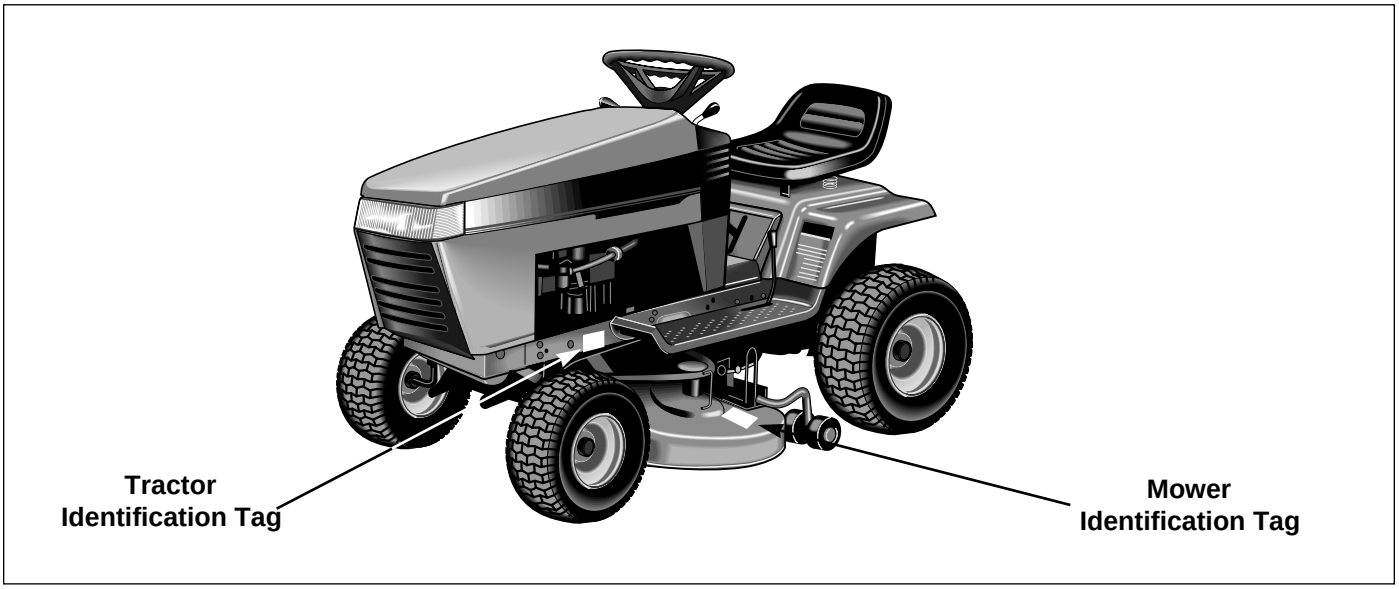


Figure 1. Identification Tags Location

Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of rider, severe personal injury or death to you, or bystanders, or damage to property or equipment. **This mowing deck is capable of amputating hands and feet and throwing objects.** The triangle ⚠ in text signifies important cautions or warnings which must be followed.

GENERAL OPERATION

- Read, understand, and follow all instructions in the manual and on the unit before starting.
- Only allow responsible adults, who are familiar with the instructions, to operate the unit.
- Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade(s).
- Be sure the area is clear of other people before mowing. Stop unit if anyone enters the area.
- Never carry passengers.
- Do not mow in reverse unless absolutely necessary. Always look down and behind before and while travelling in reverse.
- Be aware of the mower discharge direction and do not point it at anyone. Do not operate the mower without either the entire grass catcher or the deflector in place.
- Slow down before turning.
- Never leave a running unit unattended. Always disengage the PTO, set parking brake, stop engine, and remove keys before dismounting.
- Turn off the PTO switch to disengage the blades when not mowing.
- Stop engine before removing grass catcher or unclogging chute.
- Mow only in daylight or good artificial light.
- Do not operate the unit while under the influence of alcohol or drugs.
- Watch for traffic when operating near or crossing roadways.
- Use extra care when loading or unloading the unit into a trailer or truck.

SLOPE OPERATION

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. All slopes require extra caution. If you cannot back up the slope or if you feel uneasy on it, do not mow it.

⚠ WARNING - SLOPE OPERATION

Never operate on slopes greater than 30 percent (16.7°) which is a rise of three feet vertically in 10 feet horizontally. When operating on slopes that are greater than 15 percent (8.5°) but less than 30 percent use front counterweights and rear wheel weights (see your dealer). Select slow ground speed before driving onto slope. In addition to front and rear weights, use extra caution when operating on slopes with rear-mounted grass catcher. Mow UP and DOWN the slope, never across the face, use caution when changing directions and DO NOT START OR STOP ON SLOPE.

Do

- See your authorized dealer for recommendations of wheel weights or counterweights to improve stability.
- Mow up and down slopes, not across.
- Remove obstacles such as rocks, tree limbs, etc.
- Watch for holes, ruts, or bumps. Uneven terrain could overturn the unit. Tall grass can hide obstacles.
- Use slow speed. Choose a low gear so that you will not have to stop or shift while on the slope.
- Use extra care with grass catchers or other attachments. These can change the stability of the unit.
- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction.

Do Not

- *Do not* start or stop on a slope. If tires lose traction, disengage the blade(s) and proceed slowly straight down the slope.
- *Do not* turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible.
- *Do not* mow near drop-offs, ditches, or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.
- *Do not* mow on wet grass. Reduced traction could cause sliding.
- *Do not* try to stabilize the unit by putting your foot on the ground.
- *Do not* use grass catcher on steep slopes.

Safety Rules

CHILDREN

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the unit and the mowing activity. Never assume that children will remain where you last saw them.

- Keep children out of the mowing area and under the watchful care of another responsible adult.
- Be alert and turn unit off if children enter the area.
- Before and when backing, look behind and down for small children.
- Never carry children. They may fall off and be seriously injured or interfere with safe unit operation.
- Never allow children to operate the unit.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

TRANSPORTING AND STORAGE

- Always observe safe refueling and fuel handling practices when refueling the tractor after transportation or storage.
- Always follow the engine manual instructions for storage preparations before storing the tractor for both short and long term periods.
- Always follow the engine manual instructions for proper start-up procedures when returning the unit to service.
- Never store the unit or fuel container inside where there is an open flame or pilot light, such as in a water heater. Allow unit to cool before storing.

SERVICE AND MAINTENANCE

- Use extra care in handling gasoline and other fuels. They are flammable and vapors are explosive.
  a) Use only an approved container.
  b) Never remove gas cap or add fuel with the engine running. Allow engine to cool before refueling. Do not smoke.
  c) Never refuel the unit indoors.
- Never run a unit in an enclosed area.
- Keep nuts and bolts, especially blade attachment bolts, tight and keep equipment in good condition.
- Never tamper with safety devices. Check their proper operation regularly.
- Keep unit free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage.
- Stop and inspect the equipment if you strike an object. Repair, if necessary, before restarting.
- Never make adjustments or repairs with the engine running.
- Grass catcher components are subject to wear, damage, and deterioration, which could expose moving parts or allow objects to be thrown. Frequently check components and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves, and use extra caution when servicing them.
- Check brake operation frequently. Adjust and service as required.
- Use only factory authorized replacement parts when making repairs.
- Always comply with factory specifications on all settings and adjustments.
- Only authorized service locations should be utilized for major service and repair requirements.
- Never attempt to make major repairs on this unit unless you have been properly trained. Improper service procedures can result in hazardous operation, equipment damage and voiding of manufacturer's warranty.

WARNING

Never place hands near the hydro pump cooling fan when the tractor is running. Cooling fan is located on top of transaxle on hydro models.

GENERAL

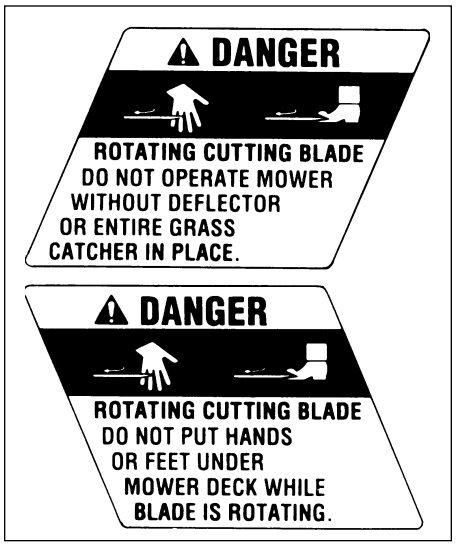
This unit has been designed and manufactured to provide you with the safety and reliability you would expect from an industry leader in outdoor power equipment manufacturing.

Although reading this manual and the safety instructions it contains will provide you with the necessary basic knowledge to operate this equipment safely and effectively, we have placed several safety labels on the unit to remind you of this important information while you are operating your tractor.

All WARNING, CAUTION and instructional messages on your tractor and mower should be carefully read and obeyed. Personal bodily injury can result when these instructions are not followed. The information is for your safety and it is important! The safety decals on the next page are on your tractor and mower.

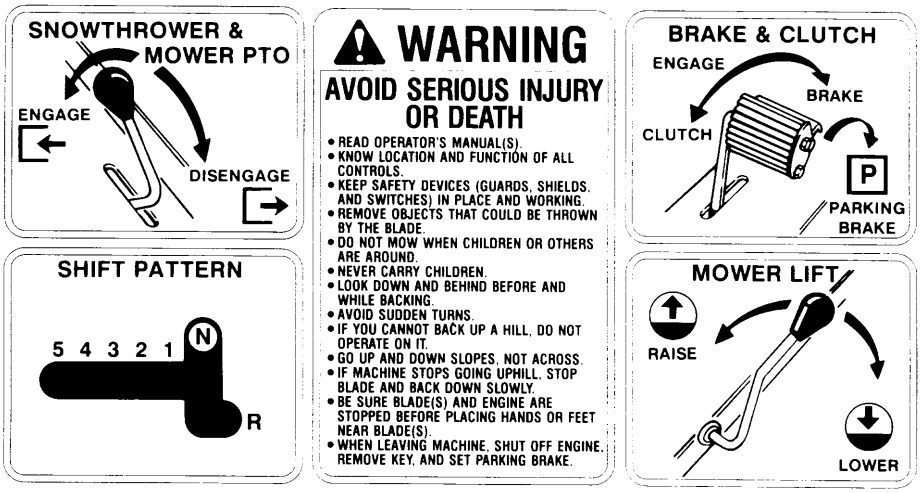
If any of these decals are lost or damaged, replace them at once. See your local dealer for replacements.

These labels are easily applied and will act as a constant visual reminder to you, and others who may use the equipment, to follow the safety instructions necessary for safe, effective operation.



Decal - Danger
Part No. 1704277 (top decal)
Part No. 1704276 (bottom decal)

Decal - Hydro Release Valve
Part No. 1708918


SNOWTHROWER &
MOWER PTO
ENGAGE
DISENGAGE
SHIFT PATTERN
5 4 3 2 1
N
R
WARNING
AVOID SERIOUS INJURY
OR DEATH
• READ OPERATOR'S MANUAL(S).
• KNOW LOCATION AND FUNCTION OF ALL CONTROLS.
• KEEP SAFETY DEVICES (GUARDS, SHIELDS, AND SWITCHES) IN PLACE AND WORKING.
• REMOVE OBJECTS THAT COULD BE THROWN BY THE BLADE.
• DO NOT MOW WHEN CHILDREN OR OTHERS ARE AROUND.
• NEVER CARRY CHILDREN.
• LOOK DOWN AND BEHIND BEFORE AND WHILE BACKING.
• AVOID SUDDEN TURNS.
• IF YOU CANNOT BACK UP A HILL, DO NOT OPERATE ON IT.
• GO UP AND DOWN SLOPES, NOT ACROSS.
• IF MACHINE STOPS GOING UPHILL, STOP BLADE AND BACK DOWN SLOWLY.
• BE SURE BLADE(S) AND ENGINE ARE STOPPED BEFORE PLACING HANDS OR FEET NEAR BLADE(S).
• WHEN LEAVING MACHINE, SHUT OFF ENGINE, REMOVE KEY, AND SET PARKING BRAKE.
BRAKE & CLUTCH
ENGAGE
BRAKE
CLUTCH
P
PARKING
BRAKE
MOWER LIFT
RAISE
LOWER

Decal - Gear Models Operating Instructions
Part No. 1708276

WARNING
AVOID SERIOUS INJURY
OR DEATH
• READ OPERATOR'S MANUAL(S).
• KNOW LOCATION AND FUNCTION OF ALL CONTROLS.
• KEEP SAFETY DEVICES (GUARDS, SHIELDS, AND SWITCHES) IN PLACE AND WORKING.
• REMOVE OBJECTS THAT COULD BE THROWN BY THE BLADE.
• DO NOT MOW WHEN CHILDREN OR OTHERS ARE AROUND.
• NEVER CARRY CHILDREN.
• LOOK DOWN AND BEHIND BEFORE AND WHILE BACKING.
• AVOID SUDDEN TURNS.
• IF YOU CANNOT BACK UP A HILL, DO NOT OPERATE ON IT.
• GO UP AND DOWN SLOPES, NOT ACROSS.
• IF MACHINE STOPS GOING UPHILL, STOP BLADE AND BACK DOWN SLOWLY.
• BE SURE BLADE(S) AND ENGINE ARE STOPPED BEFORE PLACING HANDS OR FEET NEAR BLADE(S).
• WHEN LEAVING MACHINE, SHUT OFF ENGINE, REMOVE KEY, AND SET PARKING BRAKE.
• WHEN STARTING, DEPRESS CLUTCH/BRAKE PEDAL.
F
N
R
P

Decal - Hydro Models Operating Instructions
Part No. 1709861

TRACTOR CONTROLS

REF	NAME	FUNCTION
A	Clutch/Brake Pedal	Press down to disengage clutch and apply brake. For parking brake, depress pedal fully and latch over footrest. Must be depressed to start engine.
B	Attachment Control Lever - Large (Optional)	Lifts and holds attachments in transport position. Required with attachments other than mower deck.
C	Ignition Switch	Operates with key to start, run or stop engine.
D	Light Switch	Switches headlight on or off.
E	Attachment Control Lever - Small (Standard)	Lifts and holds mower in transport position.
F	Mower Height Adjuster	Controls height of mower cut.
G	PTO Lever	Engages and disengages power to attachment. Pull up to engage.
H	Ground Speed Control Lever	Controls ground speed and forward/reverse motion. Push forward to go forward; pull back to go in reverse. On hydro models, ground speed is controlled by how far lever is in forward or reverse position.
I	Engine Speed Control Lever	Position from SLOW to FAST to control engine speed. Also position for CHOKE.
J	Gas Gauge/Cap	Shows amount of gasoline in the tank.
K	Seat Deck Release	Pull down on latch underneath left footrest while raising seat deck.

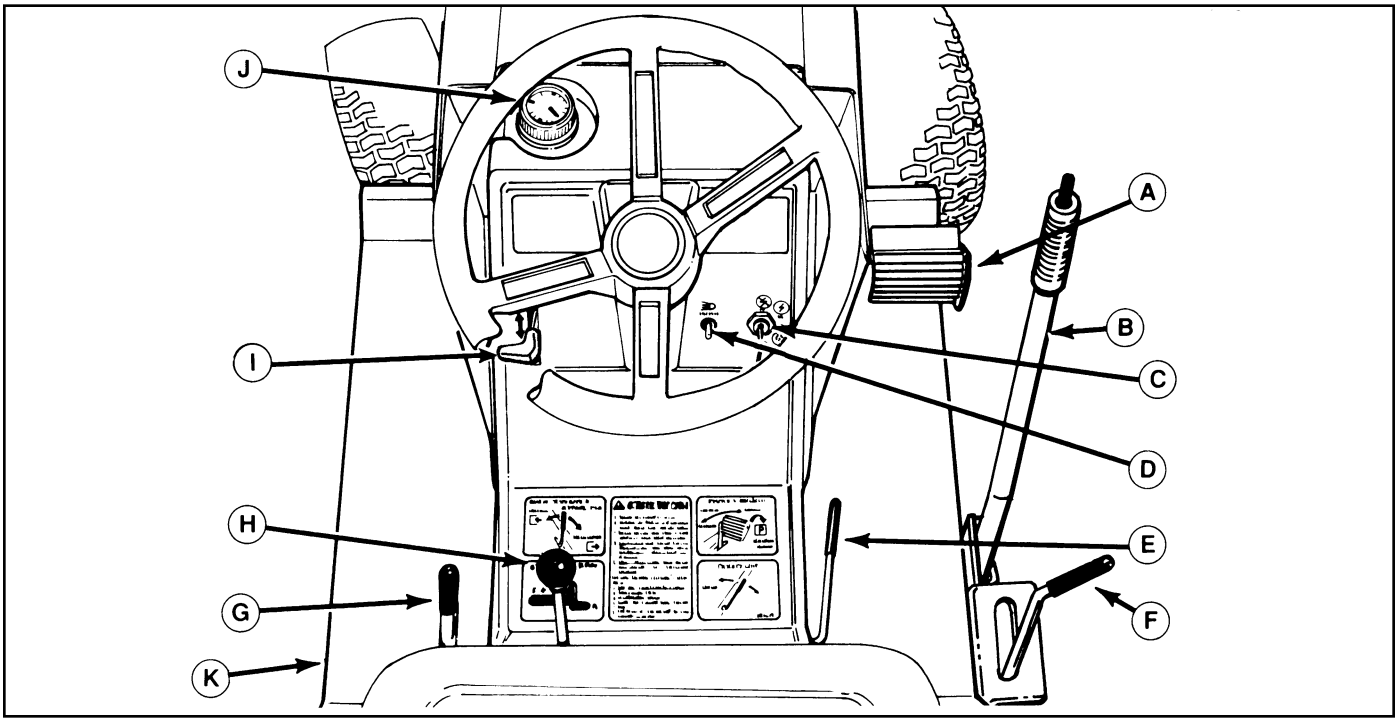


Figure 2. Tractor & Mower Controls

SAFETY INTERLOCK SYSTEM

Your tractor is equipped with a seat switch safety system that will automatically shut the engine off when the operator leaves the seat with the transmission control lever in gear or PTO engaged. Once the engine has stopped, the electric PTO switch must be turned off after operator returns to the seat in order to start the engine.

See figure 3. Check the seat switch (A) every fall and spring with the following three tests. Make sure the wiring harness (B) is securely plugged into the switch.

Test 1 - Engine should NOT crank if:

A. seat is not occupied or

B. transmission lever out of neutral or

C. PTO switch engaged or

D. clutch/brake pedal not fully depressed.

Test 2 - Engine should crank if:

A. seat is occupied and

B. transmission lever is in neutral and

C. PTO switch is disengaged and

D. clutch/brake pedal is fully depressed.

Test 3 - Engine should shut off if:

A. operator rises off seat with transmission lever in gear or

B. operator rises off seat with clutch/brake pedal not depressed or

C. operator rises off seat with PTO engaged.

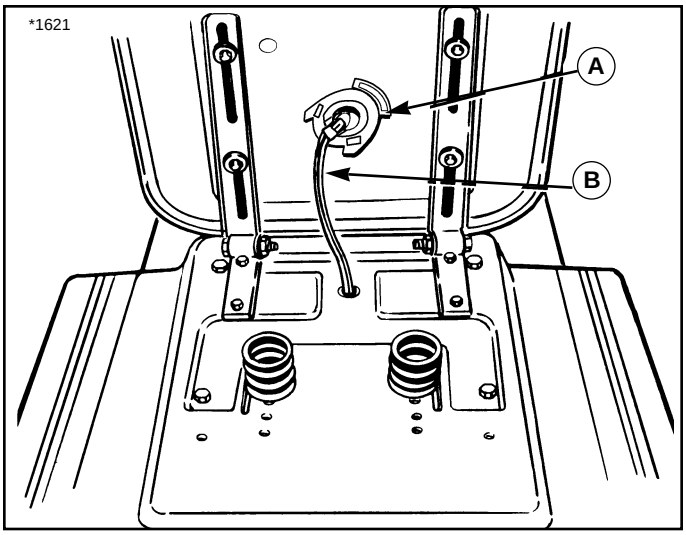


Figure 3. Seat Switch
A. Switch **B. Wiring Harness**

⚠ WARNING
If the tractor does not pass the test, do not operate tractor. See your authorized dealer. Under no circumstance should you attempt to defeat the purpose of the safety system.

Operation

GENERAL

Before operating this tractor for the first time, the owner should operate in an open area without mowing, to become accustomed to the unit. The left side of the mower can be used to trim close to objects. Be sure to read all information in the Safety and Operation sections before attempting to operate this tractor and mower.

⚠ WARNING - SLOPE OPERATION
Never operate on slopes greater than 30 percent (16.7°) which is a rise of three feet vertically in 10 feet horizontally. When operating on slopes that are greater than 15 percent (8.5°) but less than 30 percent use front counterweights and rear wheel weights (see your dealer). Select slow ground speed before driving onto slope. In addition to front and rear weights, use extra caution when operating on slopes with rear-mounted grass catcher. Mow UP and DOWN the slope, never across the face, use caution when changing directions and DO NOT START OR STOP ON SLOPE.

⚠ WARNING
Never allow passengers to ride on the unit.

⚠ WARNING
Towing the tractor will cause transmission damage. Do not use another vehicle to push or pull tractor.

⚠ WARNING
To reduce fire hazard, keep the engine and mower free of grass, leaves and excess grease.

⚠ WARNING
The interlock safety switches are for your safety. Do not attempt to bypass them.

MOWER INSTALLATION & REMOVAL

⚠ WARNING
Engage parking brake, disenage PTO, stop engine and remove key before attempting to install or remove the mower.

NOTE: Perform mower installation on a hard, level surface such as a concrete floor.

1. Place your tractor on a hard level surface, with the mower on the right side of the tractor.
2. Turn the front wheels of the tractor full left.
3. Place the mower in lowest cutting position and slide it under the tractor, aligning mower hitch arms (C, figure 4) with tractor hitch (A, figure 5).
4. See figure 6. Insert the link (A) into lift arm (B), then pivot back and down. Secure chain (C) to clevis (D) with pin (E) and clip (F). Use only four links of chain.
5. Insert a pry bar under front of mower deck. Lift up front of mower and insert pins (B, figure 5) to attach mower hitch arms to tractor hitch (A, figure 5). Connect the clips (C, figure 5) into the pins.
6. Slip the mower drive belt (E, figure 7) onto the PTO pulley (C, figure 7).
7. Loosen left-hand belt stop (A, figure 8) and right-hand belt stop (A, figure 9) as necessary. Make sure belt is properly routed between belt stops as shown in figure 9.
8. Make sure the belt is properly installed on the mower pulleys. Belt pattern is shown in figure 7.

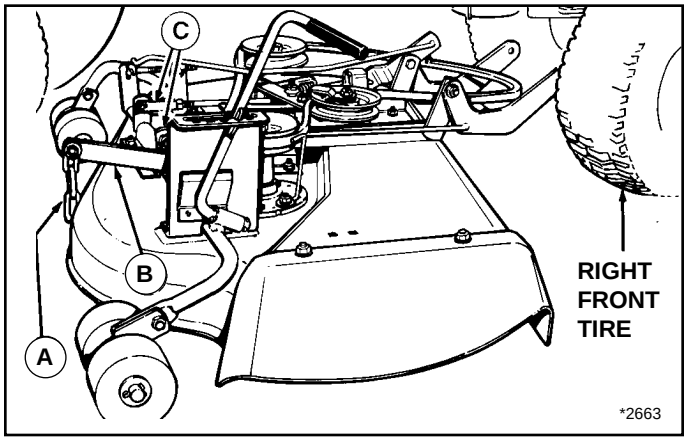


Figure 4. Installing 36" Mower
A. Lift Chain **C. Mower Hitch Arms**
B. Lift Arm

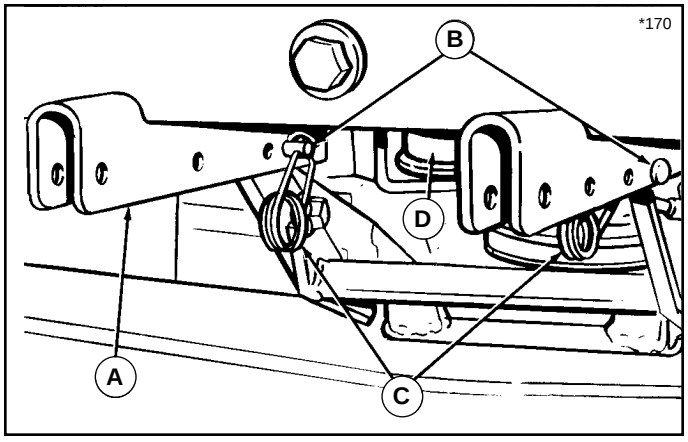


Figure 5. Tractor Hitch (under front of tractor)
A. Hitch **C. Safety Clips**
B. Pins **D. Drive Belt**

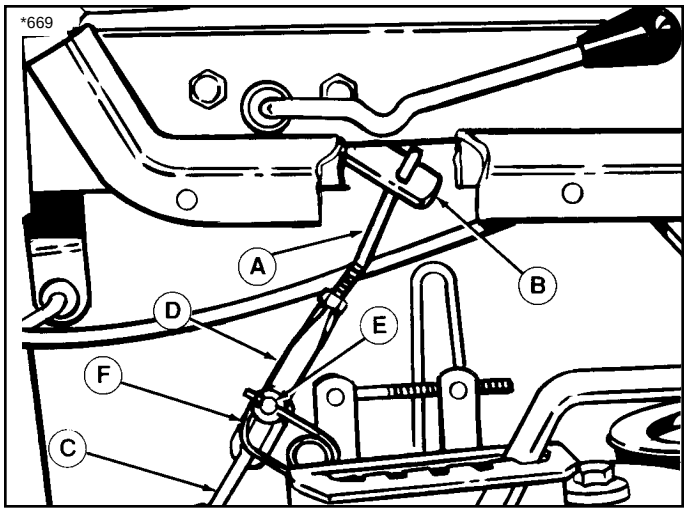


Figure 6. Mower Lift Assy. - Small Lift Lever (Standard)

A. Lift Link
B. Lift Arm
C. Chain
D. Clevis
E. Pin
F. Clip

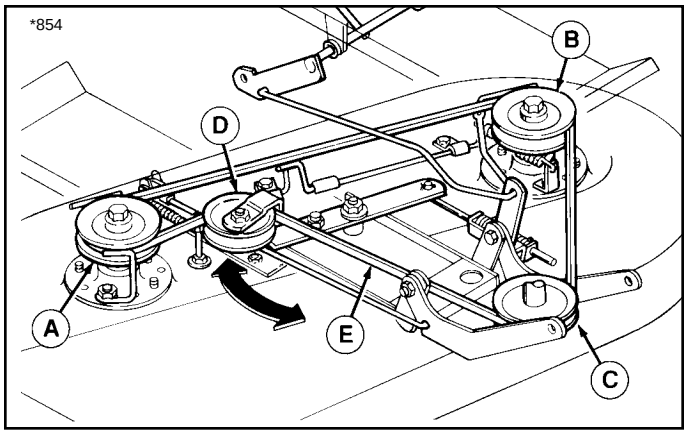


Figure 7. Mower Belt Pattern

A. V-Pulley, Right Arbor
B. V-Pulley, Left Arbor
C. Engine PTO Pulley
D. Flat Idler Pulley
E. Belt

9. See figure 10. Insert one end of the PTO rod (A) into the tractor PTO arm (B), (in the hole marked “MOW”) and secure using the spring clip (C). Insert the other end of the PTO rod (A) into the mower PTO arm (D). Secure the PTO rod (A) and brake rod to the mower PTO arm (D) with the cotter pin (E).
10. If installing mower for the first time, or if a new belt was installed, perform the mower adjustments in the Adjustments section.
11. To remove the mower, reverse the procedure.

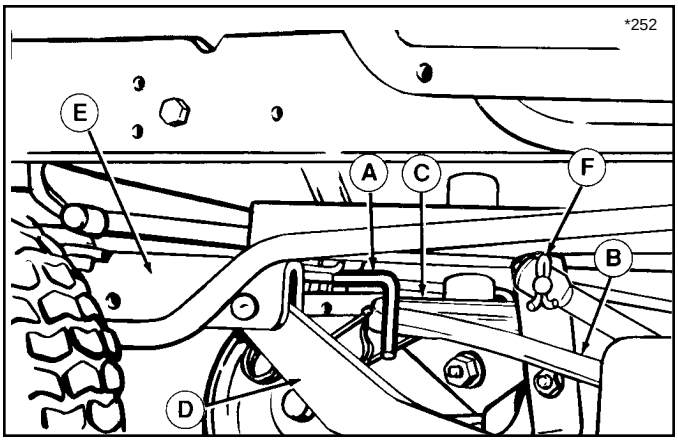


Figure 8. Left-Hand Belt Stop

A. Belt Stop
B. Belt
C. PTO Pulley
D. Mower Hitch Arm
E. Tractor Hitch
F. Cotter Pin

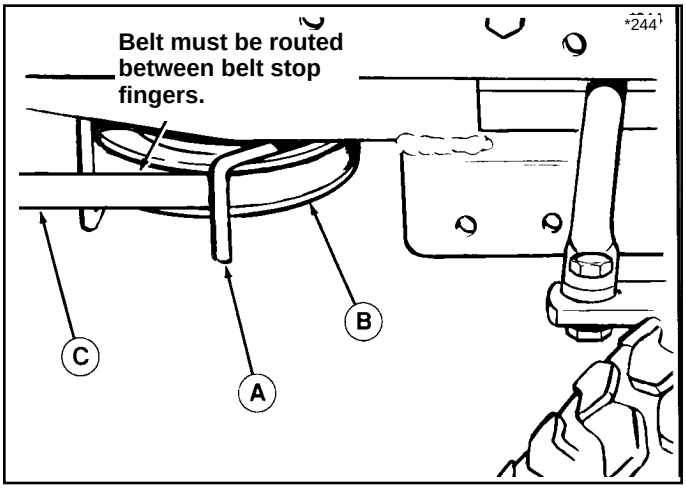


Figure 9. Right-Hand Belt Stop

A. Belt Stop
B. PTO Pulley
C. Belt

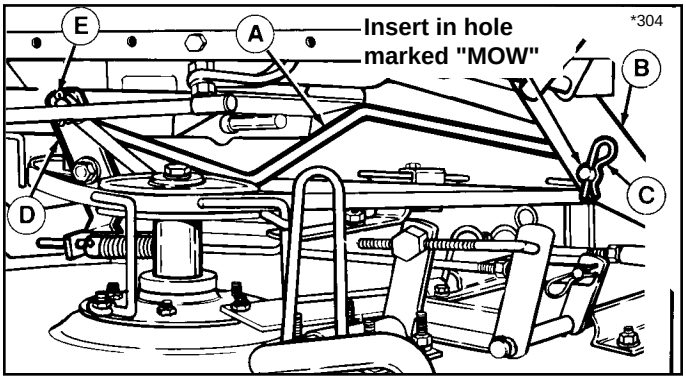


Figure 10. Installing PTO Rod (viewed from left side)

A. PTO Rod
B. Tractor PTO Arm
C. Spring Clip
D. Mower PTO Arm
E. Cotter Pin

OPERATING THE MOWER

1. When traveling to or from the work site, fully raise the mower using the mower lift lever (B or E, figure 12). At the work site, lower mower using the lift lever.
2. Use the mower height adjuster (F, figure 12) to set the proper mowing height. See Mowing Patterns & Tips section for cutting height recommendations.

CHECKS BEFORE STARTING

1. Make sure you have proper wheel or counterweights if required. See SLOPE OPERATION in the Safety Rules section. Make sure any slopes are within required limits.
2. Check that crankcase is filled to full mark on dipstick. See the engine Operator's Manual for instructions and oil recommendations.
3. Make sure all nuts, bolts, screws and pins are in place and tight.
4. Make sure you can reach all controls from operator's positions. If not, see SEAT ADJUSTMENT.
5. Fill the gasoline tank with fresh gasoline. Fill to bottom of filler neck to avoid spillage and overflow. **DO NOT** mix oil with gasoline. Refer to engine manual for gasoline recommendations.

⚠ WARNING

Gasoline is highly flammable and must be handled with care. Never fill the tank when the engine is still hot from recent operation. Do not allow open flame, smoking or matches in the area. Avoid overfilling and wipe up any spills.

CLUTCH/BRAKE PEDAL OPERATION

1. Refer to figure 11. Depressing the pedal from position A to B disengages the transmission drive.
2. Depressing pedal further to position C will also apply the tractor brake.
3. Parking brake is applied at position C when pedal is latched over the footrest as shown.

STARTING THE ENGINE

Refer to figure 12.

1. Seat yourself on the tractor seat in the operating position. Set the parking brake using the clutch/brake pedal (A).
2. Set engine speed control (I) to CHOKE. A warm engine may not required choking.
3. Lift the PTO lever (G) as far as it will go to the rear to disengage the attachment

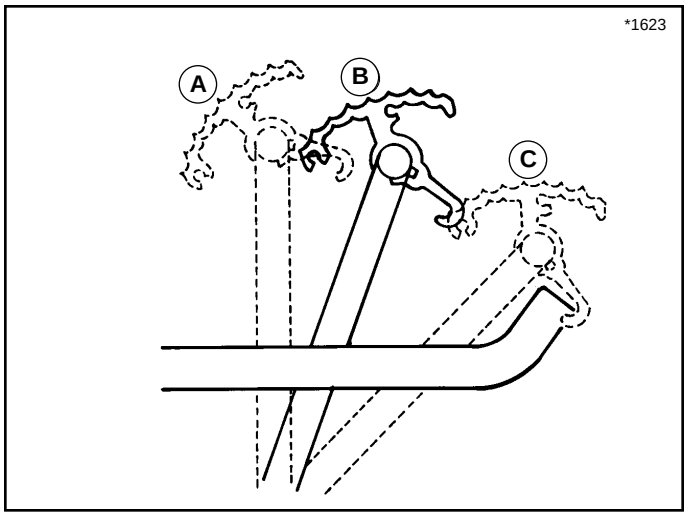


Figure 11. Clutch/Brake Pedal

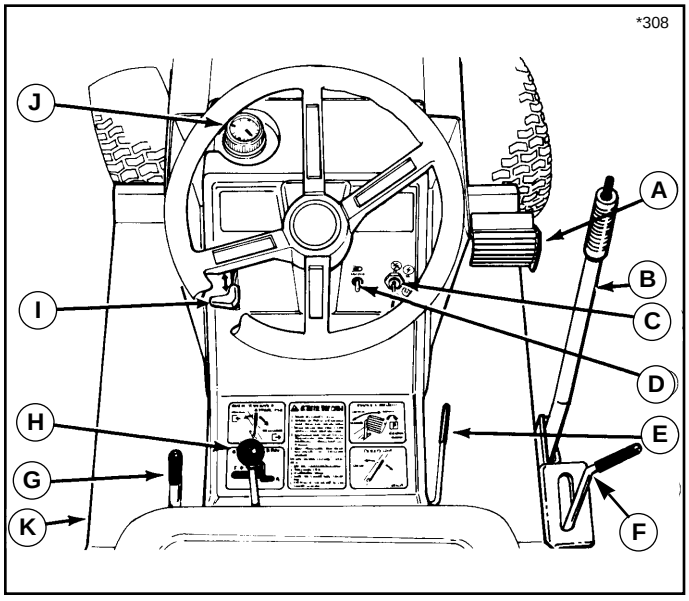


Figure 12. Tractor & Mower Controls
A. Clutch/Brake Pedal
B. Large Lift Lever - (Optional)
C. Ignition Switch
D. Light Switch
E. Small Lift Lever (Standard)
F. Mower Height Control Lever
G. PTO (Power Take-Off) Lever
H. Ground Speed Control Lever
I. Engine Speed Control
J. Gas Cap/Gauge
K. Seat Deck Release

4. Set the ground speed control lever (H) in NEUTRAL.
5. Insert the key into the ignition switch (C) and turn it to START.
6. Move the engine speed control (I) to SLOW. Warm up the engine by running it for at least a minute before engaging the PTO lever or driving the tractor

SELECTING GROUND SPEED & ENGINE SPEED

On hydro models, ground speed is infinitely variable according to how far the control lever (H, figure 12) is pushed in the forward or reverse position.

On gear models, ground speed is selected by moving the control lever (H, figure 12) to the appropriate gear selection. Most mowing is done in 3rd or 4th gear with engine speed between 3/4 and full speed. If the terrain is rough, hilly or sloping, use first or second gear. If the grass is wet or over three inches (76mm) high, use full engine speed (with low gear) so the mower will have enough power to cut the grass. Shift gears only with tractor stopped and clutch/brake pedal fully depressed.

⚠ WARNING

Make sure desired direction of travel is clear of objects, people and animals.

1. If you are ready to mow, set the mower to the desired cutting height using mower height adjuster (F, figure 12).
2. Engage the mower PTO using lever (G, figure 12) with moderately fast motion. Engaging the PTO too slowly may cause belt wear.
3. Set engine speed control (I, figure 12) for 1/3 to 1/2 speed. Select the gear best suited for conditions.
4. Release parking brake by depressing clutch/brake pedal (A, figure 12) & unlatching pedal from the footrest.
5. On hydro models, move the ground speed control lever (H, figure 12) to the desired direction and speed of travel to start tractor in motion.

   On gear models, depress clutch/brake pedal to disengage clutch. Use the ground speed control lever (H, figure 12) to select the gear best suited for conditions, then slowly release clutch/brake pedal to engage clutch and start tractor in motion.
6. Adjust engine speed control (I, figure 11) to desired speed. Between 3/4 and full speed is recommended for mowing.

STOPPING THE TRACTOR

1. On hydro models, move the ground speed control lever (H, figure 12) into the NEUTRAL position to make a gradual stop. To make a more rapid stop, depress the clutch/brake pedal (A, figure 12). If you stop by depressing the pedal, move ground speed control lever to NEUTRAL before releasing the pedal.

   NOTE: Tractor Mfg. Nos.1692259 & 1692263 will return to neutral automatically from forward speeds when clutch/brake pedal is depressed.

   On gear models, press the clutch/brake pedal (A, figure 12) down only far enough to disengage the clutch (as shown in figure 11) to make a gradual stop. For a more rapid stop, press pedal down farther to apply the brake.
2. Engage the parking brake by locking clutch/brake pedal on footrest as shown in figure 11.
3. Disengage the PTO and lower the attachment.
4. Set engine speed control (I, figure 12) to SLOW. Stopping a hot engine too fast may cause engine damage. Let engine idle for about a minute.
5. Turn key to OFF and remove it.

⚠ WARNING

Before leaving the operator's position for any reason, engage the parking brake, disengage the PTO, stop the engine and remove the key.

⚠ WARNING

To reduce fire hazard, keep the engine, tractor and mower free of grass, leaves and excess grease. Do not stop or park tractor over dry leaves, grass or combustible materials.

PUSHING THE TRACTOR BY HAND

⚠ WARNING

Do not tow the tractor. Damage will result to the transmission/transaxle.

Gear Model

1. With engine off and key removed, disengage the PTO by pulling back on lever (G, figure 12)
2. Pull the lift lever (B or E, figure 12) back to raise the mower/attachment to the transport position.
3. Place ground speed control lever in the NEUTRAL position.
4. Unlock parking brake.

Hydro Model

1. With engine off and key removed, disengage the PTO by pulling back on lever (G, figure 12)
2. Pull the lift lever (B or E, figure 12) back to raise the mower/attachment to the transport position.
3. See figure 13. The release lever is located under the rear (right-hand) tractor frame, above the transmission. Release lever must be in the rearward position to push the tractor by hand.

   To drive the tractor, release lever must be moved completely forward to engage the DRIVE position.

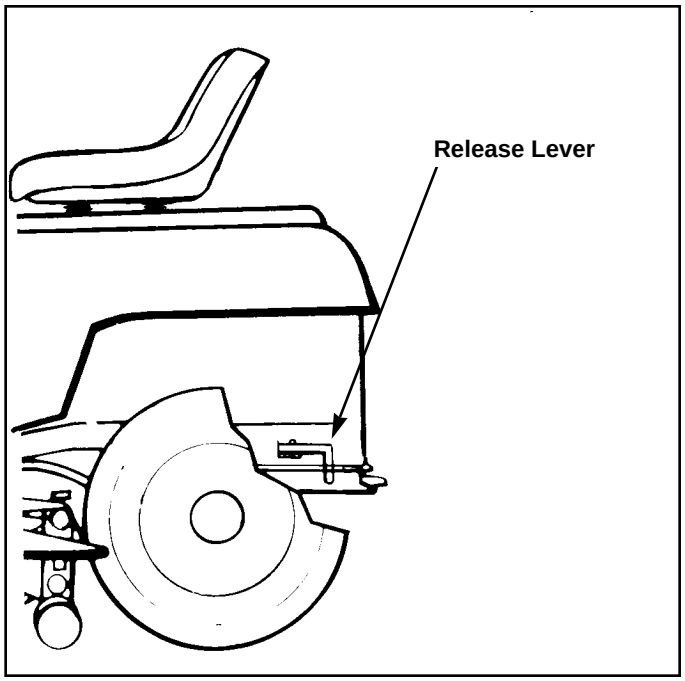


Figure 13. Release Lever - Hydro Models

GENERAL

For the first use of the mower, choose a smooth level area. Cut long straight strips overlapping slightly.

The size and type of area to be mowed determines the best mowing pattern to use. Obstructions such as trees, fences and buildings must also be considered. Where possible, make one or two passes in a counterclockwise direction around the outside of the area to keep the cut grass off fences and walks. The remainder of the mowing should be done in a clockwise direction so the clippings are dispersed on the cut area.

Keep in mind the following lawn care and mowing tips:

- Too much maintenance is as detrimental to your lawn as neglect.
- Mow when grass is 3-5 inches tall. Don't cut shorter than 2 to 2-1/2 inches. Cut only the top one-third of the grass blade. Cutting below this level can lead to thatch problems. Your mower has a cutting height adjustment that can help you maintain a proper length.
- For extremely tall grass, set the cutting height at maximum for the first pass, and then reset to the desired height and mow again.
- Mow often. Short clippings of an inch or less decompose more quickly than longer blades.
- Keep the blades on your mower sharp for finer clippings.
- Let grass grow a bit longer when it is hot to reduce heat build-up and protect grass from heat damage.
- Use slow-release fertilizer for slow, even growth.
- Don't cover grass surface with a heavy layer of clippings. Consider using a grass collection system and starting a compost pile.
- Aerate lawn in spring, consider renting an aerator which removes cores of soil from the lawn. This increases the speed of clipping decomposition and deep root growth by opening up the soil and permitting greater movement of water, fertilizer and air.
- Don't over-water. Too much water can encourage disease development.
- Mow when the grass is dry, preferably in the late afternoon when the temperatures are cooler.
- Where possible, change patterns occasionally to eliminate matting, graining or a corrugated appearance.
- For wet grasses, grasses prone to wheel tracking and for collecting clippings:

a.Use sharp blades.

b.Raise deck 1/4" higher in front than in rear.

c.Run at maximum engine speed but slow ground speed.

d.Clean deck of built-up material/caked-on grass.

e.Check for free movement of mower idler pulley.

- For dry conditions where grass blow-out is a problem:

a.Use sharp blades.

b.Raise deck flat to 1/8" maximum lower in front.

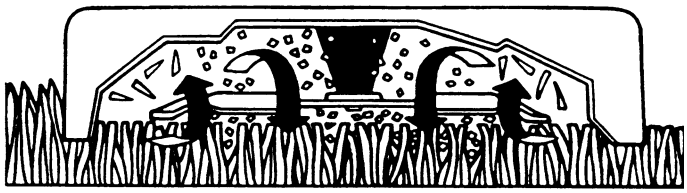
c.Use 3/4 engine speed.

d.Clean deck of built-up material/caked-on grass.

MULCHING MOWER OPERATION (OPTIONAL KIT ATTACHMENT)

Mulching

Mulching consists of actually cutting and recutting clippings into tiny particles and blowing them into the lawn. These tiny particles decompose rapidly into by-products your lawn can use. Under proper conditions, your mulching mower will virtually eliminate noticeable clippings on the lawn surface.



Keep in mind these mulching tips:

- Use mulching mower or mulcher kit without shredders for grass mulching.
- Install shredders for leaf shredding.
- Use maximum engine speed.
- Raise height of cut if excessive power is used.
- Must use sharp blades. Do not use lift tabs or high lift blade when mulching.
- Adjust to lower ground speeds in heavy grass or if windrow is present.
- Clean deck of built-up material/caked-on grass.
- Check for free movement of mower idler pulley.

Mowing Conditions

The best mulching results from mowing when lawn is dry and grass blades are not over 5" long. Follow these guidelines for best results:

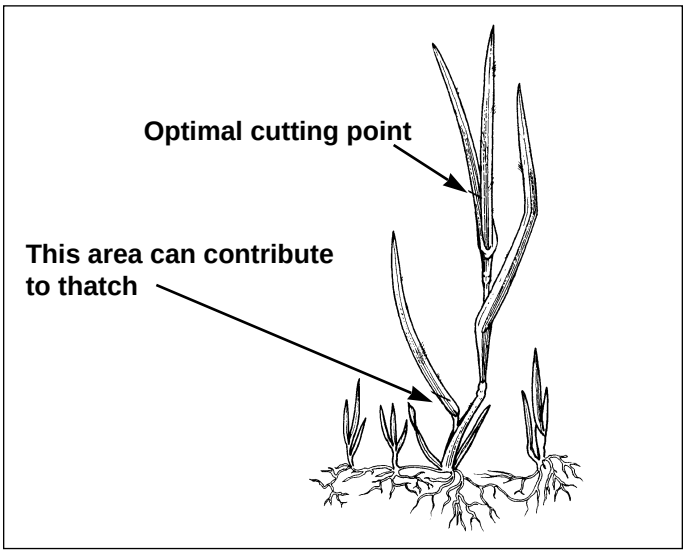
- Do not use the mower as a mulching mower during the first two or three mowings in the spring. The long grass blades, quick growth, and often wetter conditions are more suitable for side-discharge (broadcasting) or grass bagging operation.
- Avoid mulching after rain or heavy dew. It may be better to mow later in the day or early evening when lawn is drier.

Mowing Patterns & Tips

- Change the mowing pattern each time.
- If mulching baffles are removed, the original deflector must be in operating position for safe side-discharge mowing.

How Much Grass To Cut Off

Removing too much grass height in one cutting may result in an unsatisfactory cut: windrowing, clumping, or uneven dispersal of clippings may result. It is best to mow when the grass is between 3”- 5” tall, although this will depend on your personal preference for lawn appearance. A good rule to follow is to cut only the top one-third of the grass blade at a time (maximum of 1-1/2”). Cutting more off the grass blade, particularly in wet



spring conditions, can lead to thatch problems.

Engine Speed & Ground Speed

Use full engine throttle matched with a slower ground speed so that clippings will be finely cut. A better cut may result from cutting the same area in two passes, each time cutting only 3/4” of grass blade. Short clippings of 1” or less decompose more quickly than longer blades.

NOTE: When mulching under heavy cutting conditions, a rumbling sound may be present and is normal.

The Proper Equipment

Always keep the mower blades sharp and balanced. Blades should be sharpened at the beginning of every mowing season. If the tips of grass blades brown after cutting, this may be a sign of dull blades tearing, rather than cutting, the grass blades.

Keep the underside of the mower deck and baffles clean so that clippings are properly circulated, chopped, and discharged back into the lawn.

The Best Combination

We recommend that you experiment with the height of cut position and tractor ground speed that will give you the best cut. Start with a higher cutting height and try increasing lower settings until you find a cutting height that is matched to your mowing conditions and preferences. Since mulching requires more horsepower than side-discharging, using a slower ground speed is important for proper mulching operation.

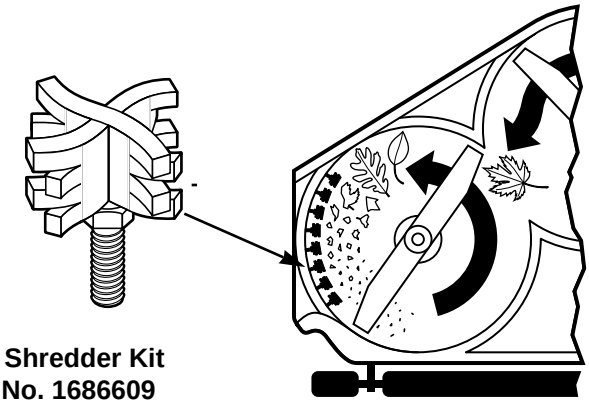
Clippings Are Beneficial

A common misconception about clippings is that they automatically lead to thatch. However, clippings produced by mulching methods actually contribute to a healthy lawn because they:

- Act as a safe, non-polluting and inexpensive fertilizer that nourishes your lawn. Fresh cut blades are a rich source of nitrogen which is essential to lush growth. And one garbage bag of clippings contains about 1/4 lb. of usable organic nitrogen.
- Reduce the evaporation of water from your lawn.
- Provide a cushioning layer to reduce lawn wear.
- Moderate soil temperature.
- Save money normally spent on trash bags.

Leaf Shredding
(For use with Mulcher Kit Only)

Patented Shredder Blades virtually eliminate raking leaves. Up to 512 cutting edges pulverize leaves into tiny particles, which quickly and naturally decompose into food for your lawn. Shredder Blades must be removed when you choose to mulch grass clippings.



Leaf Shredder Kit
Part No. 1686609
(Contains Qty. 8 shredders)

SCHEDULE

The following schedule should be followed for normal care of your tractor and mower. You will need to keep a record of your operating time. Determining operating time is easily accomplished by multiplying the time it takes to do one job by the number of times you've done the job, or you can install the optional hour meter.

Safety Items	See Page	Before First Use	Before Each Use	Every 5 Hours	Every 25 Hours	Every 100 Hours	Spring & Fall
Check safety interlock system.	7	●					●
Check tractor brakes.	27	●					●
Check mower blade brake adjustment.	32	●				●	
Normal Care Items							
Check tractor/ mower for loose hardware.	–	●	●	●			
Check engine oil level.	*	●	●	●			●
Check engine air filter.	*				***●		
Change engine oil and filter.**	*				***Every 50 hrs.		***●
Lubricate tractor & mower.	18-19				***●		
Check fluid levels & tire pressure	17	●	●		**●		
Change transmission fluid. (Hydro only)****	–		For transaxle service only.				
Check fuel filter.	19					●	
Clean battery & cables	19					●	
Clean/sharpen blades.	20					●	
Inspect spark plug(s).	*					●	
Check belt tension.	*					●	●

* See the engine manufacturer's owner's manual.
* * Change original engine oil after first 5 hours of operation.
** * More often in hot (over 85° F: 30° C) weather or dusty operating conditions.
*** * Transaxle is a sealed unit and requires no regular interval fluid changes.

RAISING THE HOOD & SEAT DECK

1. To raise the hood, grasp both sides of the hood (A, figure 14) near the dash and pull outward. Pivot the hood up and forward.
2. To open the seat deck, pull down the latch (B, figure 14) located ahead of the left rear wheel, then tilt seat deck back.

⚠ CAUTION

Do not run the engine with the hood raised. Engine heat will cause damage to the headlight bezel and hood.

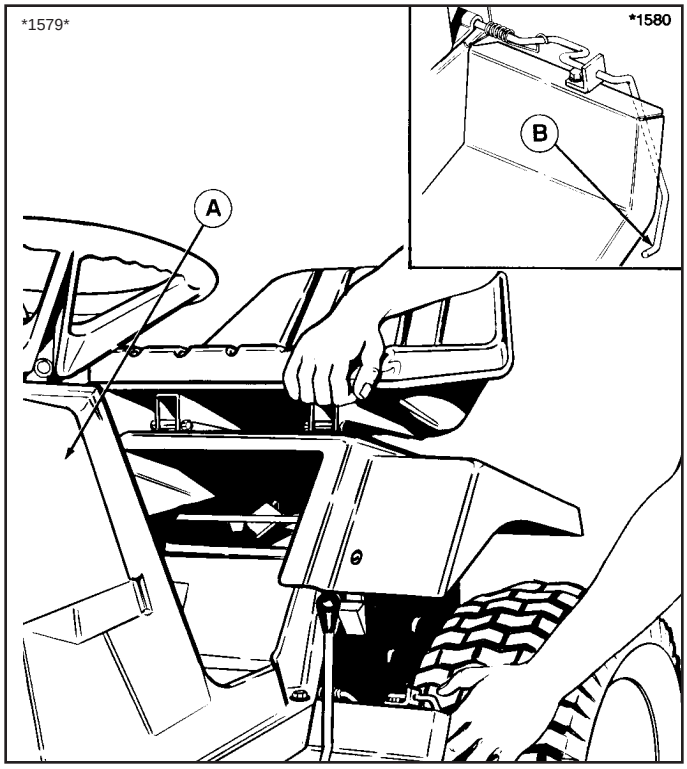


Figure 14. Hood & Seat Deck
A. Hood **B. Latch**

CHECKING/ADDING GASOLINE

⚠ CAUTION

Never use gasoline containing METHANOL, gasohol containing more than 10% ethanol, gasoline additives, premium gasoline, or white gas because engine/fuel system damage could result.

Check the gas gauge/cap to be sure there is enough gasoline to complete the job. To add gasoline, remove the gas gauge/cap. Do not overfill. Leave room in the

tank for fuel expansion. Refer to your engine manual for gasoline recommendations. Install and hand tighten the gas gauge/cap.

CHECKING TIRE PRESSURE

Front tire pressure should be 12 to 15 psi (82 to 103 kPa). Rear tire pressure should be 6 to 8 psi (41 to 55 kPa).

CHECKING FUEL FILTER

⚠ WARNING

Do not remove fuel filter when engine is hot, as spilled gasoline may ignite. DO NOT spread hose clamps further than necessary. Ensure clamps grip hoses firmly over filter after installation.

The fuel filter is located in fuel line between fuel tank and carburetor. If filter is dirty or clogged, replace as follows. Place a container below filter to catch spilled gasoline.

1. Using a pliers, open and slide hose clamps from fuel filter.
2. Remove hoses from filter.
3. Install new filter in proper flow direction in fuel line. Secure with hose clamps. See warning at beginning of procedure.

LUBRICATION

Lubricating the Tractor

Lubricate the tractor as shown in figures 15 - 19. When a grease gun is shown, wipe the fitting clean, apply two or three shots of lithium base automotive grease, and wipe off excess grease. When an oil can is shown, wipe the area clean, apply a few drops of oil (SAE 30), then wipe up drips or spills.

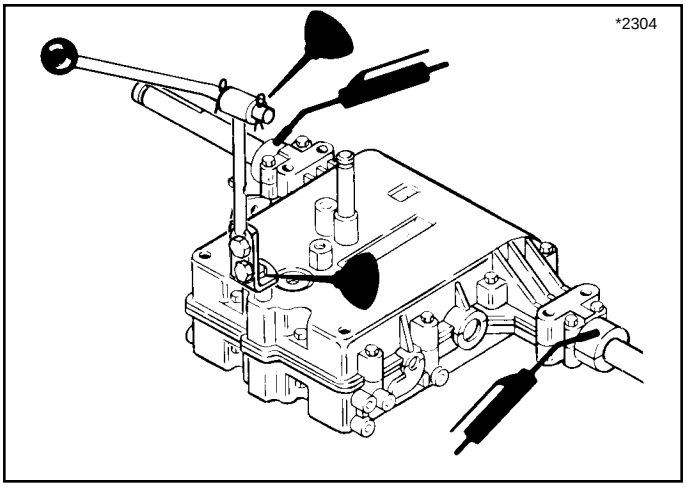


Figure 15. Shift Lever Lubrication - Gear Models

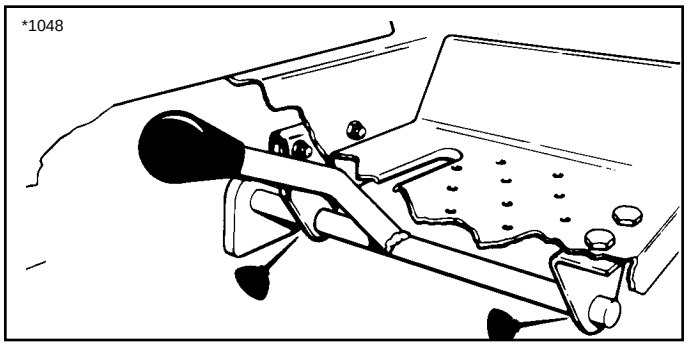


Figure 16. PTO Lever Lubrication

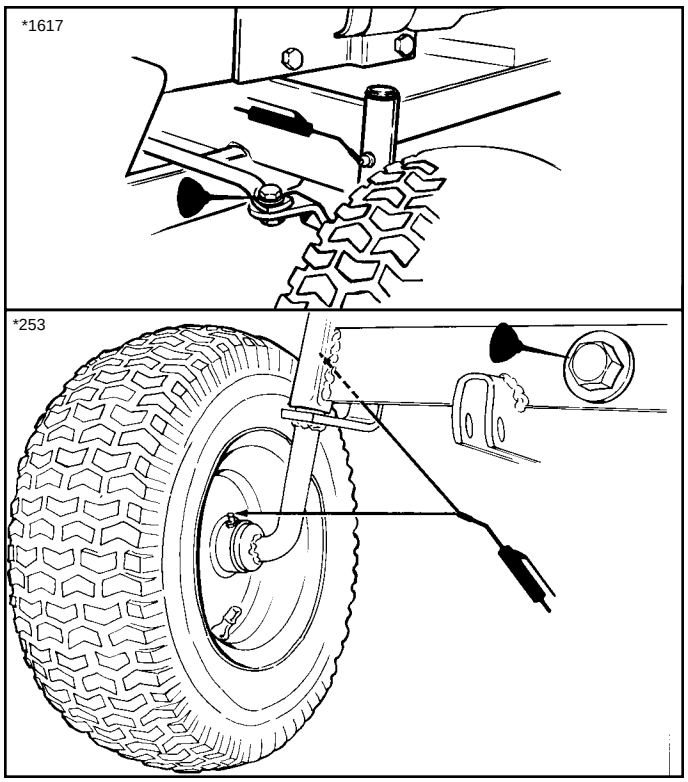


Figure 17. Front Axle Lubrication - Two Grease Fittings on Each Side

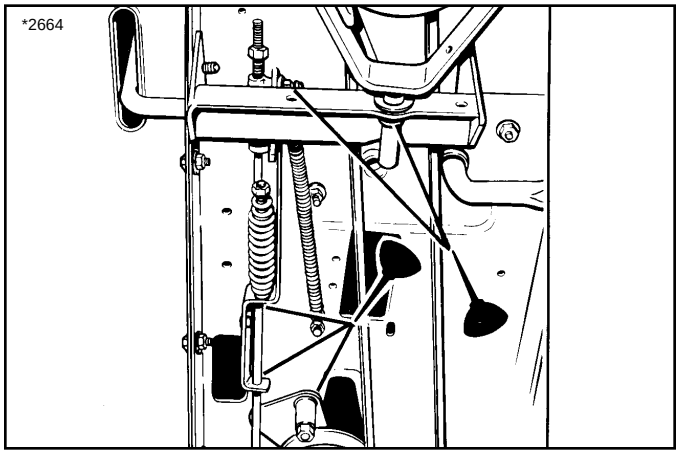


Figure 18 Clutch & Brake Rod Lubrication - Gear Models

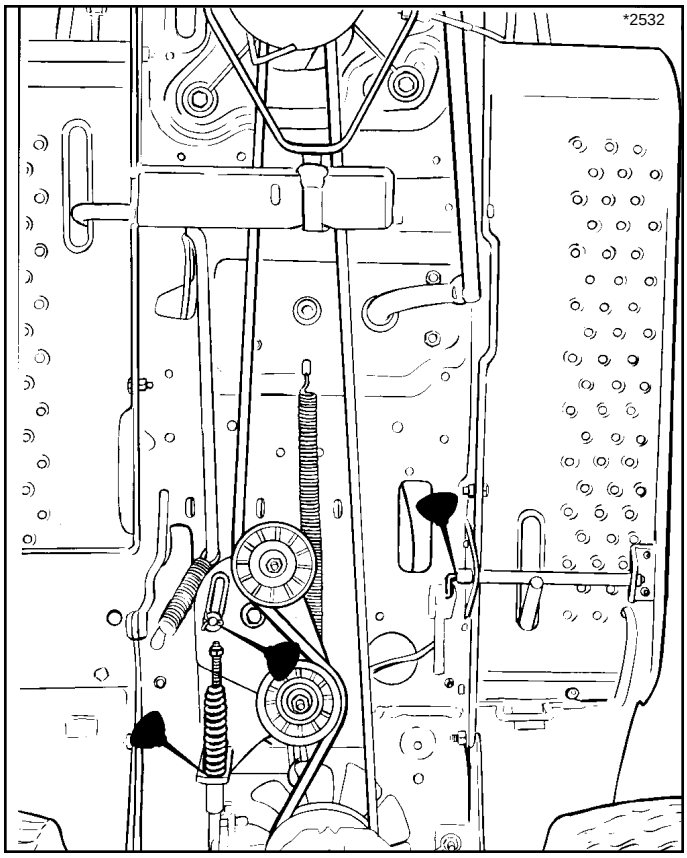


Figure19. Clutch & Brake rod Lubrication - Hydro Models

LUBRICATING THE MOWER

Lubricate the mower as shown in figures 20 - 22. Also lubricate grease fittings on the mower idler pulley and arbors (underneath the mower deck). Use an oil can with medium weight (SAE 30) oil. Brush and wipe dirt and grass from the area before applying oil. Wipe up drips and spills. Keep oil off belts and pulleys.

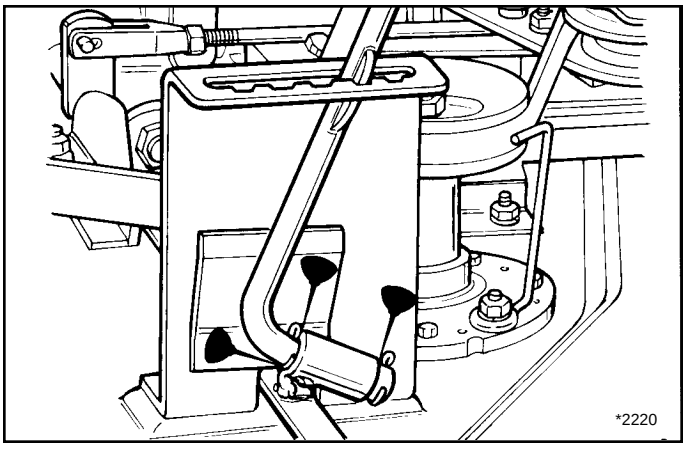


Figure 20. Lubricate Height Control Lever & Point Where Roller Bar Contacts the Bracket

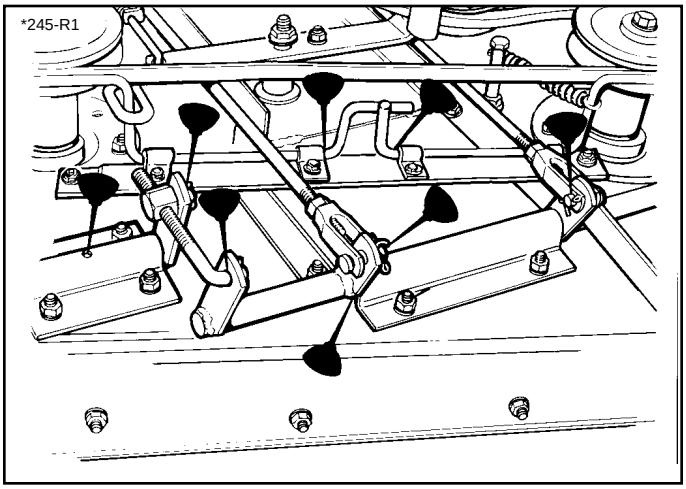


Figure 21. Lubricate Brake Lever, Clevises & Levelling Rod

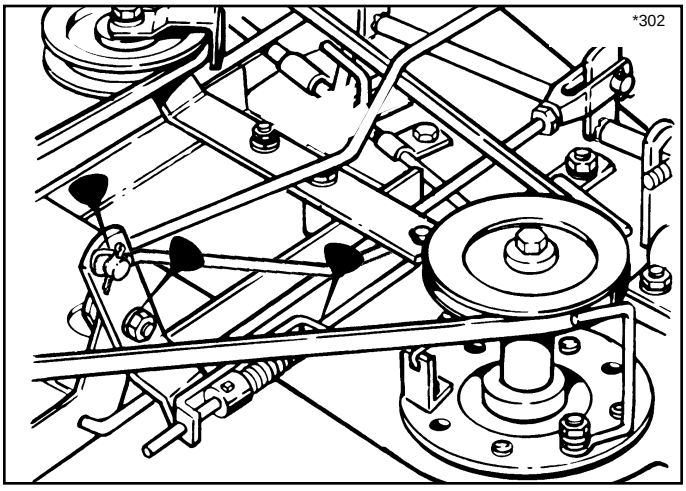


Figure 22. Lubricate Hitch, PTO Rod & PTO Arm

TRANSAXLE - HYDRO MODELS

The hydro transaxle is a sealed unit. The transaxle is filled with oil and does not require any further lubrication unless a service overhaul is performed

BATTERY MAINTENANCE

Checking the Battery Fluid

⚠ WARNING

Be careful when handling the battery. Avoid spilling electrolyte. Keep flames and sparks away from the battery.

1. Raise the seat deck (figure 24).
2. Remove battery filler cap. Fluid must be even with split ring full mark (figure 25). If not, add distilled water.
3. Reinstall filler cap.

Cleaning the Battery and Cables

1. Disconnect the cables from the battery, negative cable first (B, figure 25).

⚠ WARNING

When removing or installing battery cables, disconnect the negative cable FIRST and reconnect it LAST. If not done in this order, the positive terminal can be shorted to the frame by a tool.

2. Remove the battery clamp, then remove the battery.
3. Scrub the battery, cables and battery compartment with baking soda and water.
4. Clean the battery terminals and cable clamps with a wire brush and battery post terminal cleaner.
5. Reinstall battery and clamp.
6. Connect cables, positive cable first.
7. Coat cable clamps and terminals with grease or petroleum jelly.

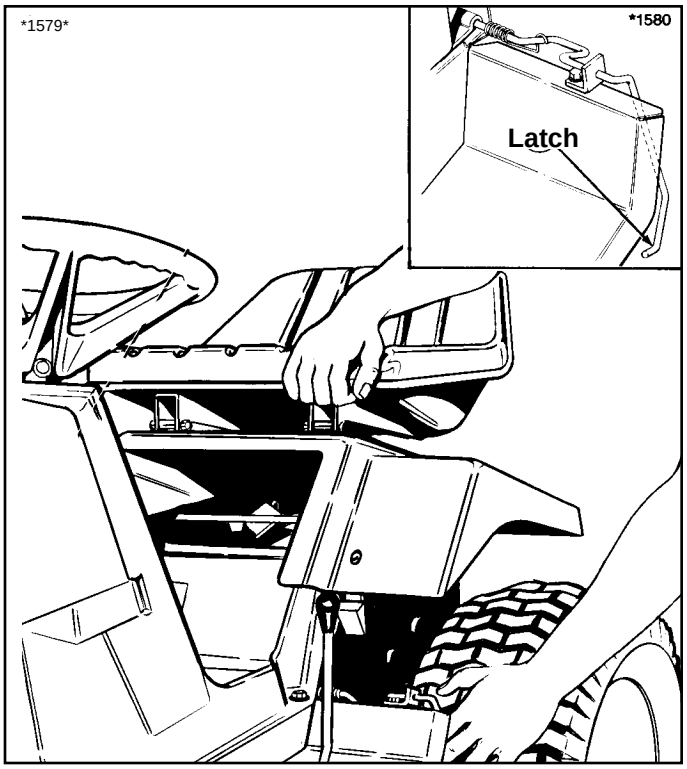


Figure 24. Raising Seat Deck.

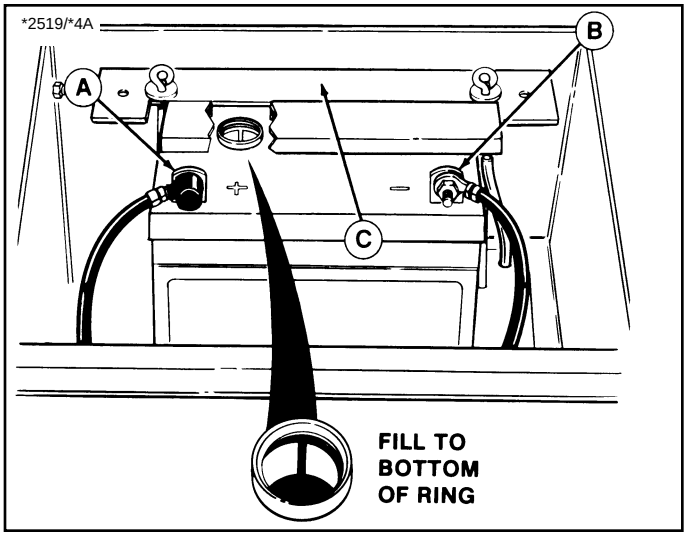


Figure 25. Battery
A. Positive Battery Terminal C. Hold Down Rod
B. Negative Battery Terminal D. Battery Clamp

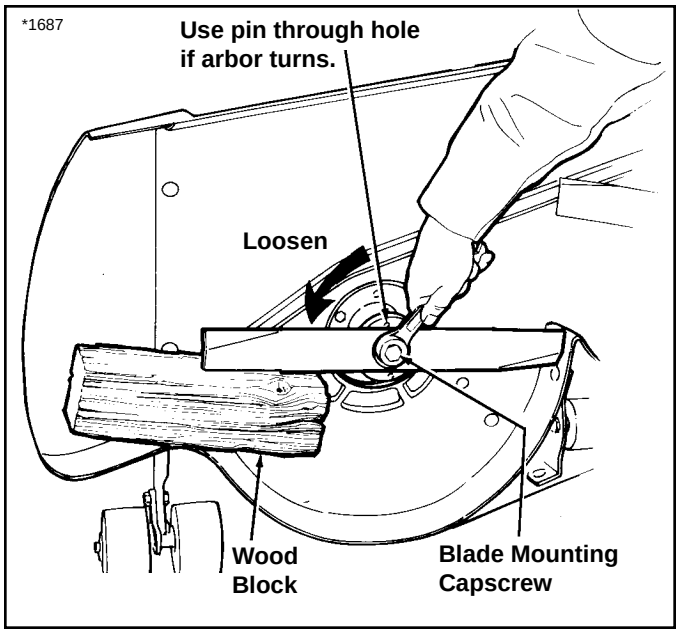


Figure 26. Removing the Blade

SERVICING THE MOWER BLADES

⚠ WARNING

For your personal safety, do not handle the sharp mower blades with bare hands. Careless or improper handling of blades may result in serious injury.

1. Remove mower from the tractor.
2. Blades should be sharp and free of nicks and dents. If not, sharpen blades as described in following steps.
3. To remove blade for sharpening, use wooden block to hold blade while removing the blade mounting capscrew (figure 26).
4. Use a file to sharpen blade to fine edge. Remove all nicks and dents in blade edge. If blade is severely damaged, it should be replaced.
5. Balance the blade as shown in figure 27. Center the blades' hole on a nail lubricated with a drop of oil. A balanced blade will remain level.

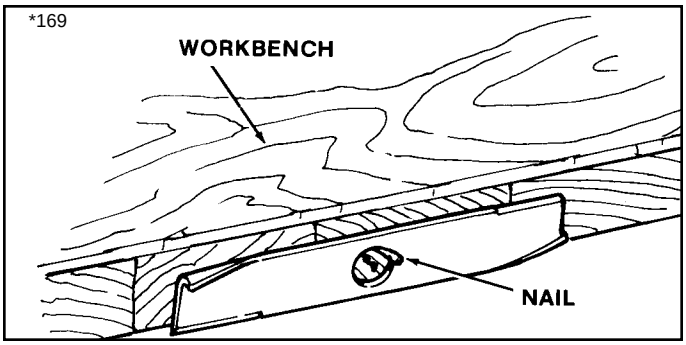


Figure 27. Balancing The Blade

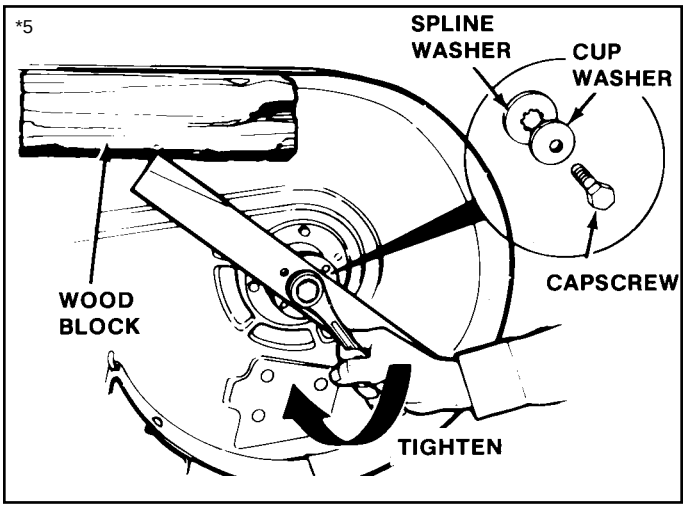


Figure 28. Installing The Blade

6. Reinstall each blade with the tabs pointing up toward deck as shown in figure 28. Secure with a capscrew, cup washer and spline washer. Be sure spline washer hub fits inside blade mounting hole. Use a wooden block to prevent blade rotation and torque capscrews to 50-70 ft.lbs. (67-95 N.m.).

⚠ WARNING

For your personal safety, blade mounting capscrews must each be installed with a cup washer and spline washer, then securely tightened. Torque blade mounting capscrew to 50 - 70 ft.lbs. (67 - 95 N.m.)

Storage

⚠ WARNING

Never store the tractor, with gasoline in engine or fuel tank, in a heated shelter or in enclosed, poorly ventilated enclosures. Gasoline fumes may reach an open flame, spark or pilot light (such as a furnace, water heater, clothes dryer, etc.) and cause an explosion.

Handle gasoline carefully. It is highly flammable and careless use could result in serious fire damage to your person or property.

Drain fuel into an approved container outdoors away from open flame or sparks.

TEMPORARY STORAGE (30 Days Or Less)

Remember, the fuel tank will still contain some gasoline, so never store the tractor indoors or in any other area where fuel vapor could travel to any ignition source. Fuel vapor is also toxic if inhaled, so never store the tractor in any structure used for human or animal habitation.

Here is a checklist of things to do when storing your tractor temporarily or in between uses:

- Keep the tractor in an area away from where children may come into contact with it. If there's any chance of unauthorized use, remove the spark plug (s) and put in a safe place. Be sure the spark plug opening is protected from foreign objects with a suitable cover.
- If the tractor can't be stored on a reasonable level surface, chock the wheels.
- Clean all grass and dirt from the mower.

NOTE: If storing your tractor between winter snow removal jobs in a cold area, we suggest that you fill the fuel tank at the completion of each job to prevent water condensation in the fuel tank. Wait for engine to cool before filling tank.

LONG TERM STORAGE (Longer Than 30 Days)

Before you store your tractor for the off-season, read the Maintenance and Storage instructions in the Safety Rules section, then perform the following steps:

1. Drain crankcase oil while engine is hot and refill with a grade of oil that will be required when tractor is used again.
2. Prepare the mower deck for storage as follows:
   a. Remove mower deck from the tractor.
   b. Clean underside of mower deck.
   c. Coat all bare metal surfaces with paint or light coat of oil to prevent rusting.
3. Clean external surfaces and engine.
4. Prepare engine for storage. See engine owner's manuals
5. Clean any dirt or grass from cylinder head cooling fins,engine housing and air cleaner element.
6. Cover air cleaner and exhaust outlet tightly with plastic or other waterproof material to keep out moisture, dirt and insects.
7. Completely grease and oil tractor as outlined in the Normal Care section.

8. Clean up tractor and apply paint or rust preventative to any areas where paint is chipped or damaged.
9. Be sure the battery is filled to the proper level with water and is fully charged. Battery life will be increased if it is removed, put in a cool, dry place and fully charged about once a month. If battery is left in tractor, disconnect the negative cable.
10. Drain fuel system completely or add a gasoline stabilizer to the fuel system. If you have chosen to use a fuel stabilizer and have not drained the fuel system, follow all safety instructions and storage precautions in this manual to prevent the possibility of fire from the ignition of gasoline fumes. Remember, gasoline fumes can travel to distant sources of ignition and ignite, causing risk of explosion and fire.

NOTE: Gasoline, if permitted to stand unused for extended periods (30 days or more), may develop gummy deposits which can adversely affect the engine carburetor and cause engine malfunction. To avoid this condition, add a gasoline stabilizer to the fuel tank or drain all fuel from the system before placing unit in storage.

STARTING AFTER LONG TERM STORAGE

Before starting the tractor after it has been stored for a long period of time, perform the following steps.

1. Remove the blocks from under the tractor.
2. Install the battery if it was removed.
3. Unplug the exhaust outlet and air cleaner.
4. Fill the fuel tank with fresh gasoline. See engine manual for recommendations.
5. See engine owner's manual and follow all instructions for preparing engine after storage.
6. Check crankcase oil level and add proper oil if necessary.
7. Inflate tires to proper pressure. Check fluid levels.
8. Start the engine and let it run slowly. DO NOT run at high speed immediately after starting. Be sure to run engine only outdoors or in well ventilated area.

GENERAL

This section of the manual provides troubleshooting and repair instructions for the more common and easily corrected problems. For other problems, it is recommended that you contact your dealer.

⚠ WARNING

To avoid serious injury, perform maintenance on the tractor or mower only when the engine is stopped and the parking brake engaged. Always remove the ignition key, disconnect spark plug wire and fasten away from the plug before beginning the maintenance, to prevent accidental starting of the engine.

Locate the problem that best describes the trouble that you have encountered. Check the possible causes one at a time, in the order that they are listed.

TROUBLESHOOTING THE TRACTOR

Engine will not turnover or start.

1. Ground speed control lever not in neutral-start position. Shift into neutral.
2. PTO lever in up position (engaged). Place lever in down position to disengage PTO.
3. Out of fuel. Allow engine to cool then refill the fuel tank.
4. Engine flooded. Move throttle control out of CHOKE position .
5. Circuit breaker tripped. Wait one minute for automatic reset. Replace if defective (see your dealer).
6. Battery terminals require cleaning. See Normal Care section.
7. Battery discharged or dead. Recharge or replace.
8. Wiring loose or broken. Visually check wiring & replace broken or frayed wires. Tighten loose connections.
9. Solenoid or starter motor faulty. Repair or replace.
10. Safety interlock switch or module faulty. Replace if needed (see your dealer.)
11. Spark plug faulty, fouled or incorrectly gapped. Clean and gap or replace. See engine manual.
12. Water in fuel. Drain fuel & refill with fresh fuel.
13. Old stale gas. Drain fuel & replace with fresh fuel.
14. Foot pedal not depressed.

Engine starts hard or runs poorly.

1. Fuel mixture too rich. Move control out of the choke position. If problem still exists, clean the air filter.
2. Carburetor adjusted incorrectly. See engine manual.
3. Spark plug faulty, fouled, or incorrectly gapped. Clean and gap or replace. See engine manual.

Engine knocks.

1. Low oil level. Check/add oil as required.
2. Using wrong grade oil. See engine manual.

Excessive oil consumption.

1. Engine running too hot. Clean engine fins, blower screen and air cleaner.
2. Using wrong weight oil. See engine manual.
3. Too much oil in crankcase. Drain excessive oil.

Engine exhaust is black.

1. Dirty air filter. Clean air filter. See engine manual.
2. Choke not fully open. Move control out of choke and be sure choke opens fully. If problem still exists, check carburetor adjustments. See engine manual.

Engine runs, but tractor will not drive.

1. Ground speed control lever in neutral. Shift in forward or reverse.
2. (Hydro models only) Transmission release lever in “push” position. Move into drive position.
3. Belt is broken. See Drive Belt Replacement.
4. Drive belt slips. See problem and cause below.
5. Brake not fully released.

Tractor drive belt slips.

1. Clutch or belt tension is out of adjustment. See Adjustment section
2. Pulleys or belt greasy or oily. Clean as required.
3. Belt stretched or worn. Replace with correct belt.
4. Clutch rod binding in guide. Oil clutch rod. See Tractor Lubrication.

Brake will not hold.

1. Brake is incorrectly adjusted. See Brake Adjustment.
2. Internal brake disc on transaxle worn. See your dealer.

Tractor steers hard or handles poorly.

1. Steering linkage is loose. Check and tighten any loose connections. See Steering Gear Adjustment.
2. Improper tire inflation. Check and correct.
3. Spindle bearings dry. Grease spindles. See Lubricating the Tractor.

Drive belt does not stop when clutch/brake pedal depressed.

1. Belt stops or belt tension out of adjustment. See Adjustments section.

Tractor will not move with ground speed control lever in forward or reverse position.

1. Brake is not fully released. See Brake Adjustments.
2. Transmission release lever (hydro models) not fully in drive position. See Pushing The Tractor By Hand.

TROUBLESHOOTING THE MOWER

Mower will not raise.

1. Lift chain not properly attached or damaged. Attach or repair.

Mower cut is uneven.

1. Tractor tires not inflated equally or properly. See Normal Care.
2. Mower not leveled properly. See Mower Adjustment.

Mower cut is rough looking.

1. Engine speed too slow. Set for 3/4 to full speed.
2. Ground speed too fast. Set ground speed control lever at a slower ground speed.
3. Blades dull and require sharpening. See Servicing the Mower Blades.
4. Mower drive belt slipping. Belt oily or worn. Clean or replace belt as necessary.
5. Blades not properly fastened to arbors. See Servicing the Mower Blades.

Engine stalls easily with mower engaged.

1. Engine speed too slow. Set for 3/4 to full throttle.
2. Ground speed too fast.
3. Carburetor not adjusted properly.
4. Cutting height set too low when mowing tall grass. Cut tall grass at maximum cutting height during first pass.
5. Discharge chute jamming with cut grass. Cut grass with discharge pointing toward previously cut area.

Excessive mower vibration.

1. Blade mounting screws are loose. Torque to 50-70 ft. lbs. (74 Nm).
2. Mower blades, arbors, or pulleys are bent. Check and replace as necessary.
3. Mower blades are out of balance. Remove, sharpen and balance blades. See Servicing the Mower Blades.
4. Belt installed incorrectly. See Belt Replacement.

Excessive belt breakage.

1. Belt tension too tight. Adjust belt.
2. Bent or rough pulleys. Repair or replace.
3. Using incorrect belt. See your dealer.
4. Mower not leveled properly.
5. Mowing in transport position. Be sure attachment lift lever is not in transport position when mowing.

Mower drive belt slips or fails to drive.

1. Belt stops out of adjustment. Check.
2. Mower drive belt broken. Replace.

CHECKING THE BATTERY

The voltmeter can be used to determine condition of battery. When engine is off, the voltmeter shows battery voltage, which should be 12 volts. When engine is running, the voltmeter shows voltage of charging circuit which normally is 13 to 14 volts.

A dead battery or one too weak to start the engine may not mean the battery needs to be replaced. It may, as an example, mean that the alternator is not charging the battery properly. If there is any doubt about the cause of the problem, see your dealer. If you need to replace the battery, follow the steps under Cleaning the Battery & Cables in the Normal Care Section.

CHARGING A COMPLETELY DISCHARGED BATTERY

⚠ WARNING

Do not attempt to charge a frozen battery. Allow the battery to warm to 60° F (15.5° C) before placing on charge.

1. Be aware of all the safety precautions you should observe during the charging operation. If you are unfamiliar with the use of a battery charger and hydrometer, have the battery serviced by your dealer.
2. Add water sufficient to cover the plate (fill to the proper level near the end of the charge). If the battery is extremely cold, allow it to warm before adding water because the water level will rise as it warms. Also, an extremely cold battery will not accept a normal charge until it becomes warm.
3. Always unplug or turn the charger off before attaching or removing the clamp connections.

⚠WARNING

Keep open flames and sparks away from the battery; the gasses coming from it are highly explosive. Ventilate the battery well during charging.

4. Carefully attach the clamps to the battery in proper polarity (usually red to [+] positive and black to [-] negative).
5. While charging, periodically measure the temperature of the electrolyte. If the temperature exceeds 125° F (51.6° C), or if violent gassing or spewing of electrolyte occurs, the charging rate must be reduced or temporarily halted to prevent battery damage.
6. Charge the battery until fully charged (i.e. until the specific gravity of the electrolyte is 1.250 or higher and the electrolyte temperature is at least 60° F). The best method of making certain a battery is fully charged, but not over charged, is to measure the specific gravity of a cell once per hour. The battery is fully charged when the cells are gassing freely at low charging rate and less than 0.003 change in specific gravity occurs over a three hour period.

JUMP STARTING WITH AUXILIARY (BOOSTER) BATTERY

⚠ WARNING

For your personal safety, use extreme care when jump starting. Never expose battery to open flame or electric spark – battery action generates hydrogen gas which is flammable and explosive. Do not allow battery acid to contact skin, eyes, fabrics, or painted surfaces. Batteries contain a sulfuric acid solution which can cause serious personal injury or property damage.

Jump starting is not recommended. However, if it must be done, follow these directions. Both booster and discharged batteries should be treated carefully when using jumper cables. Follow the steps below EXACTLY, being careful not to cause sparks. Refer to figure 29.

1. Both batteries must be of the same voltage (6, 12, etc.).
2. Position the vehicle with the booster battery adjacent to the vehicle with the discharged battery so that booster cables can be connected easily to the batteries in both vehicles. Make certain vehicles do not touch each other.
3. Wear safety glasses and shield eyes and face from batteries at all times. Be sure vent caps are tight. Place damp cloth over vent caps on both batteries.
4. Connect positive (+) cable to positive post of discharged battery (wired to starter or solenoid).
5. Connect the other end of same cable to same post marked positive (+) on booster battery.
6. Connect the second cable negative (-) to other post of booster battery.
7. Make final connection on engine block of stalled vehicle away from battery. Do not lean over batteries.
8. Start the engine of the vehicle with the booster battery. Wait a few minutes, then attempt to start the engine of the vehicle with the discharged battery.
9. If the vehicle does not start after cranking for thirty seconds, STOP PROCEDURE. More than thirty seconds seldom starts the engine unless some mechanical adjustment is made.
10. After starting, allow the engine to return to idle speed. Remove the cable connection at the engine or frame. Then remove the other end of the same cable from the booster battery.
11. Remove the other cable by disconnecting at the discharged battery first and then disconnect the opposite end from the booster battery.
12. Discard the damp cloths that were placed over the battery vent caps.

⚠ WARNING

To avoid engine damage, do not disconnect battery while engine is running. Be sure terminal connections are tight before starting.

⚠ WARNING

Any procedure other than the preceding could result in: (1) personal injury caused by electrolyte squirting out the battery vents, (2) personal injury or property damage due to battery explosion, (3) damage to the charging system of the booster vehicle or of the immobilized vehicle.

Do not attempt to jump start a vehicle having a frozen battery because the battery may rupture or explode. If a frozen battery is suspected, examine all fill vents on the battery. If ice can be seen or if the electrolyte fluid cannot be seen, do not attempt to start with jumper cables as long as the battery remains frozen.

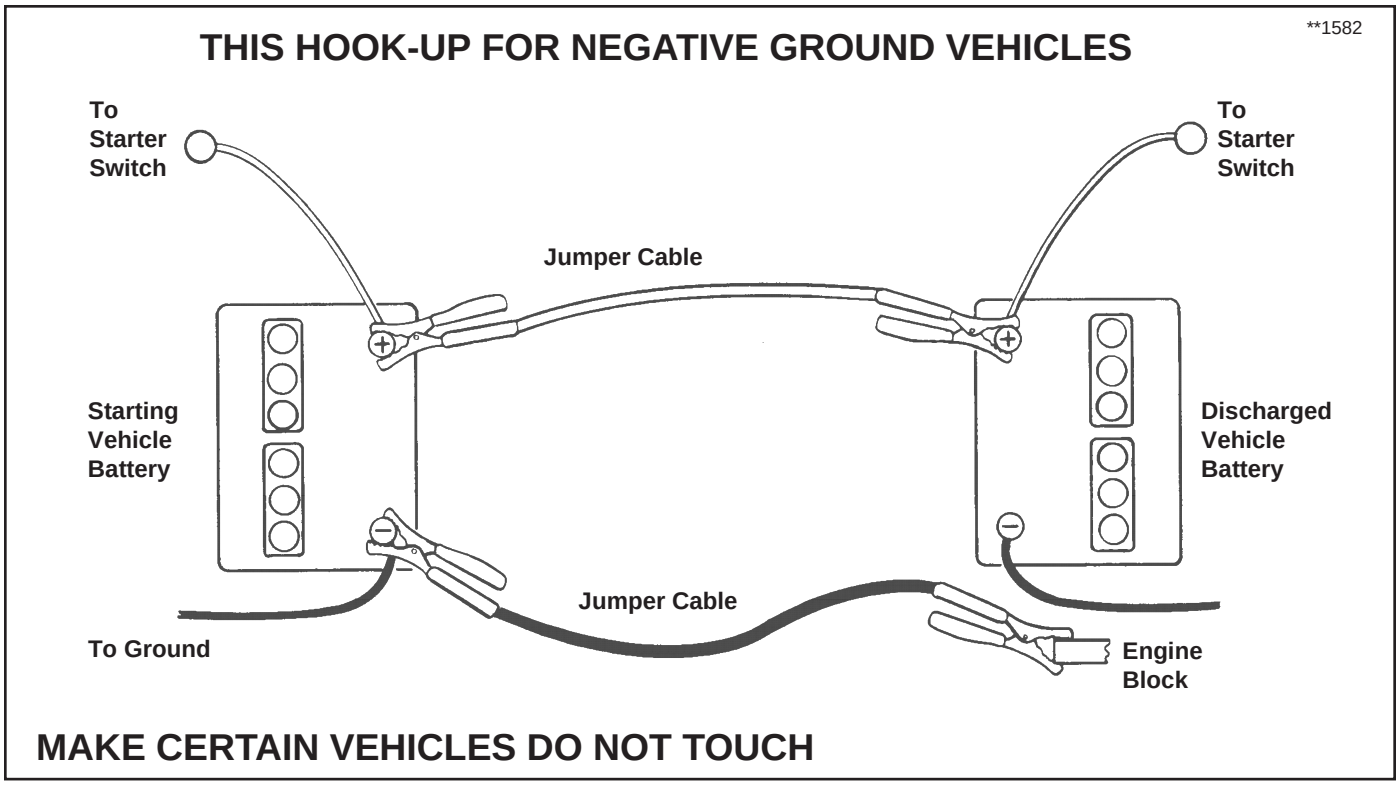


Figure 29. Battery Jump Starting Diagram

⚠WARNING

To avoid serious injury, perform adjustments only with engine stopped, key removed and tractor on level ground.

SEAT ADJUSTMENT

1. See figure 30. Raise the seat and loosen the four capscrews (A) securing seat to deck.
2. Position the seat as desired, then tighten the capscrews.
3. Seat springs (B) can be adjusted for operator comfort. Move springs forward for lighter operator and toward the rear for heavier operator.

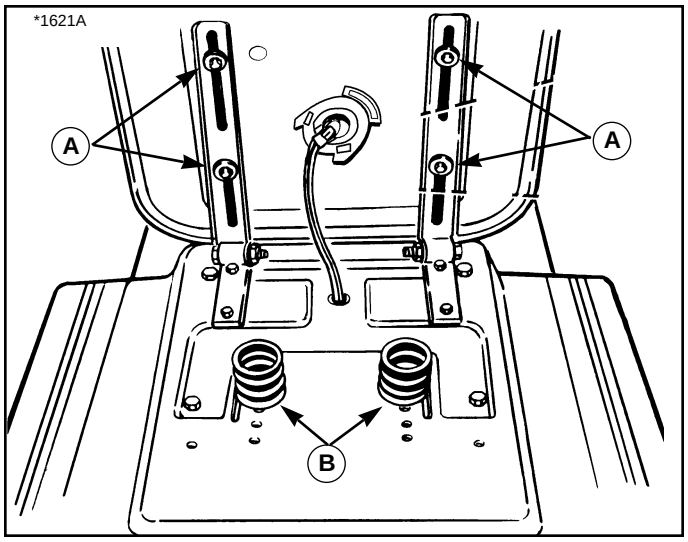


Figure 30. Seat Adjustment
A. Capscrews B. Springs

BRAKE ADJUSTMENTS - GEAR MODELS

Parking Brake Adjustment

1. Place the transmission in gear and release the parking brake.
2. Move the brake rod (I, figure 34) back and forth to be sure there is no tension on the brake pads.
3. See figure 31. Push the cam lever (A) forward (toward front of tractor) to remove any slack. The gap between cam lever (A) and stop (B) should be 1/8" (0.3mm). Use a feeler gauge to measure.
4. If adjustment is required, loosen or tighten the adjustment nut (C, figure 31) to achieve correct dimension. Some models are equipped with two nuts. If so, loosen the outer nut, adjust the inner nut as necessary, then tighten the outer nut.

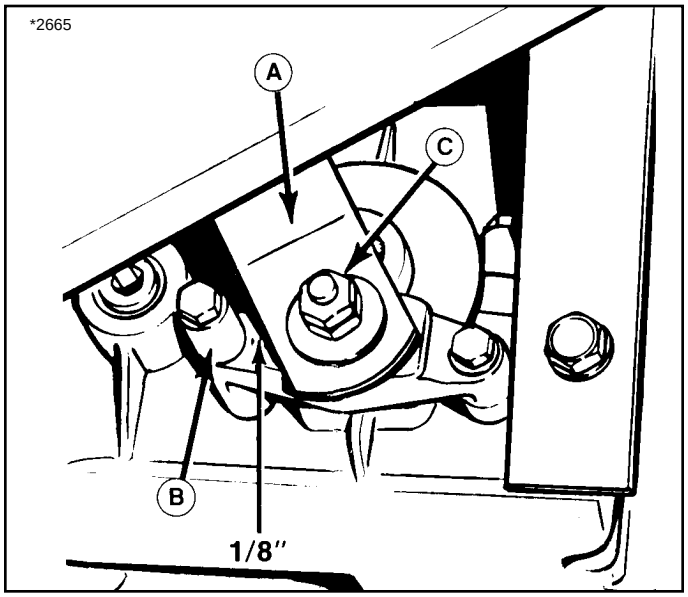


Figure 31. Parking Brake Adjustment - Gear Models (Viewed from right side of transmission)
A. Brake Cam Lever C. Adjustment Nut
B. Stop

Brake Spring Adjustment

1. Make sure the brake cam lever is properly adjusted as described previously under Parking Brake Adjustment.
2. Fully depress clutch pedal and lock parking brake.
3. See figure 34. Adjust the brake rod nut (A) until spring (D) is compressed to 2-11/32" length.

BRAKE ADJUSTMENTS - HYDRO MODELS

Parking Brake Adjustment

1. See figure 32. With parking brake released, rotate the brake cam (A) forward until it stops. There should be gap between transaxle housing (B) and rear point of brake cam as shown in the figure.
2. If adjustment is required, remove cotter pin and turn adjusting nut (C) until proper clearance is achieved. Turning the nut in will decrease clearance and turning the nut out will increase clearance. Reinstall cotter pin after adjustment.

Brake Spring Adjustment

1. See figure 33. Depress the clutch/brake pedal and latch parking brake over footrest. When compressed, measure the brake spring (A) between the rod guide (B) and adjusting nut (C). Measurement should be as shown.
2. If adjustment is required, turn adjusting nut (C) until proper spring length is achieved.

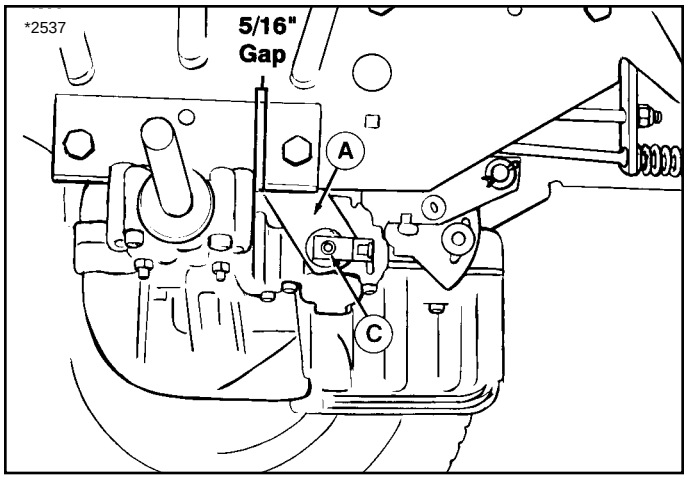


Figure 32. Parking Brake Adjustment - Hydro Models (Viewed from left side of transaxle with wheel removed)

A. Brake Cam
B. Transaxle Housing
C. Adjusting Nut

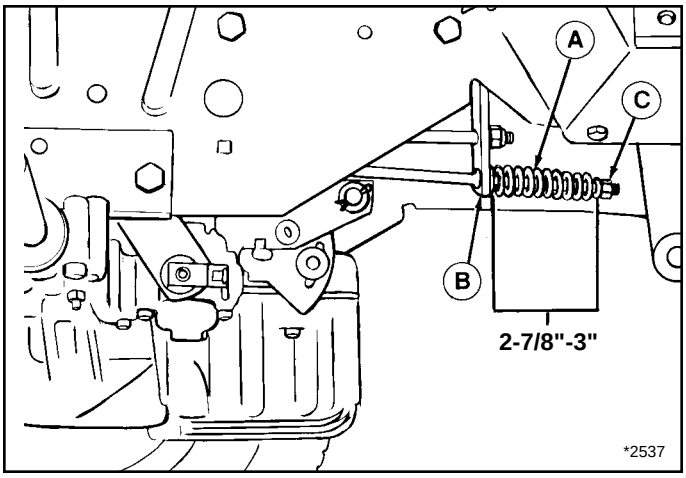


Figure 33. Brake Spring Adjustment - Hydro Models

A. Brake Spring
B. Rod Guide
C. Adjusting Nut

CLUTCH ROD ADJUSTMENT - GEAR MODEL

Refer to figure 34.

1. Release clutch/brake pedal so parking brake is not locked.
2. Apply 15-20 lbs. pressure to pedal to firmly seat transmission drive belt in idler pulley (F). Measure the distance between the inside belt strands as shown in figure 34. Distance should be between 2-3/4” and 3-3/8”.
3. If adjustment is required, loosen rear idler pulley (F, figure 34). Move rear pulley rearward to increase distance and move pulley forward to decrease distance.

NOTE: For smooth operation, the drive system is designed to allow some belt slippage at transmission drive pulley when clutch pedal is released. In the following adjustment, less belt slippage can be obtained by slightly reducing the 2-7/16” dimension.

4. Make sure spring (B) is seated against rod guide (G) and set collar (H). Apply 15-20 lbs. pressure to pedal to position belt firmly in idler pulley.
5. Push set collar (H) against spring (B) to compress spring to 2-7/16” and tighten setscrew. Release idler pulley and check dimension.
6. If adjustment is required, apply parking brake, loosen setscrew (K), reposition set collar (H) and tighten setscrew. Release parking brake and check dimension. Repeat until 2-7/16” dimension is achieved.

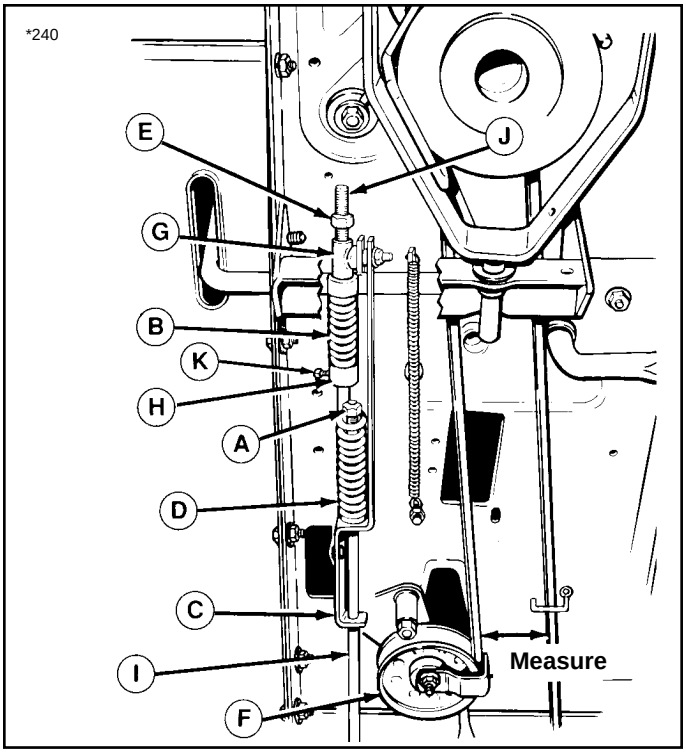


Figure 34. Clutch/Brake Adjustments - Gear Model

A. Nut
B. Spring, Clutch Rod
C. Brake Rod Guide
D. Spring, Brake Rod
E. Nut
F. Idler Pulley, Rear
G. Clutch Rod Guide
H. Set Collar
I. Brake Rod
J. Clutch Rod
K. Setscrew

7. Measure distance between rod guide (G) and nut (E). Distance should be 5/8”. turn nut as required to correct distance.

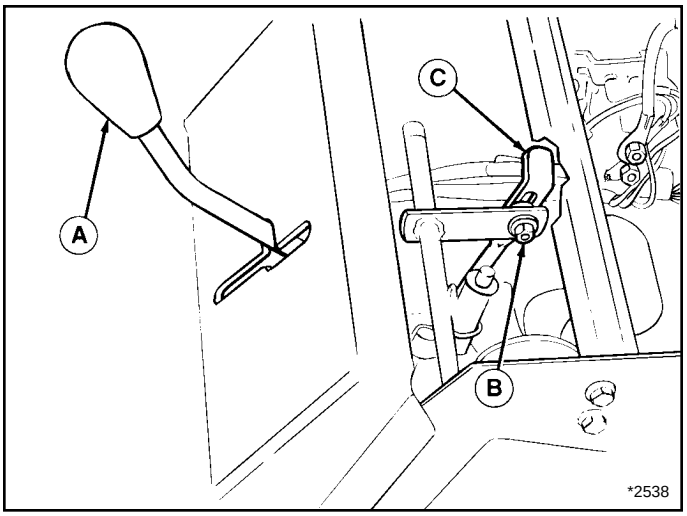


Figure 35. Ground Speed Control Lever - Hydro Models
A. Ground Speed Control Lever
B. Nut
C. Linkage Rod

NEUTRAL ADJUSTMENT - HYDRO MODELS

If the tractor creeps forward or backward with ground control speed lever positioned in the neutral gate, perform the following adjustment.

1. Raise rear of tractor off ground with suitable hoist or floor jack. Install jackstands underneath transaxle and block the front wheels.
2. See figure 35. Place speed control lever (A) in the NEUTRAL gate. Start the engine and run at maximum RPM.
3. Raise the seat deck. Loosen nut (B) and adjust linkage rod (C) up or down until wheels stop rotating, then tighten nut (B) securely.
4. Turn off the engine and remove tractor from jack stands or jack.

RETURN-TO-NEUTRAL ADJUSTMENT - HYDRO MODELS

1. Depress clutch/brake pedal fully. Ground speed control lever should return to the neutral gate.

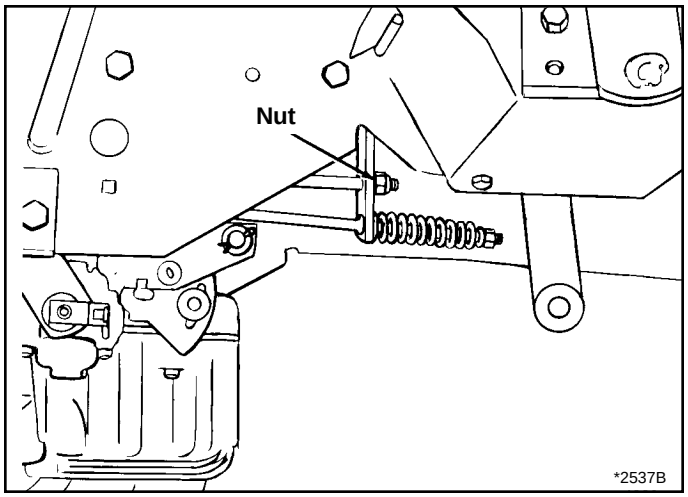


Figure 36. Return-To-Neutral Adjustment - Hydro Models (Viewed from right side of transaxle with the rear wheel removed)

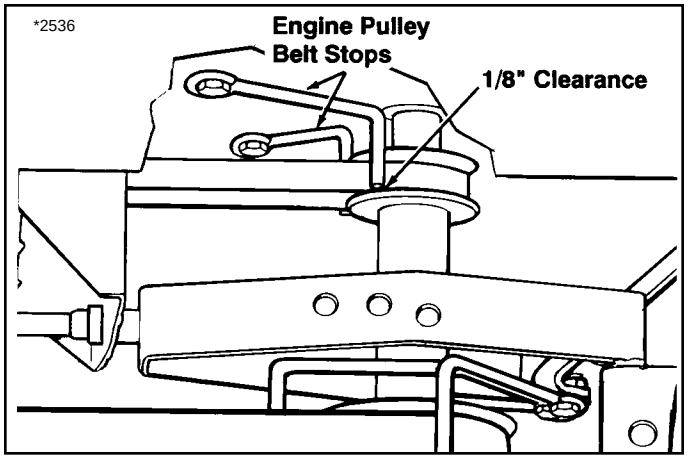


Figure 37. Engine Pulley Belt Stops

2. See figure 36. Turn nut in either direction until proper adjustment is achieved and control lever returns fully to the neutral gate.

ENGINE PULLEY BELT STOP

There should be 1/8” (3mm) between each belt stop and the belt when the tractor clutch is engaged (pedal up). See figure 37.

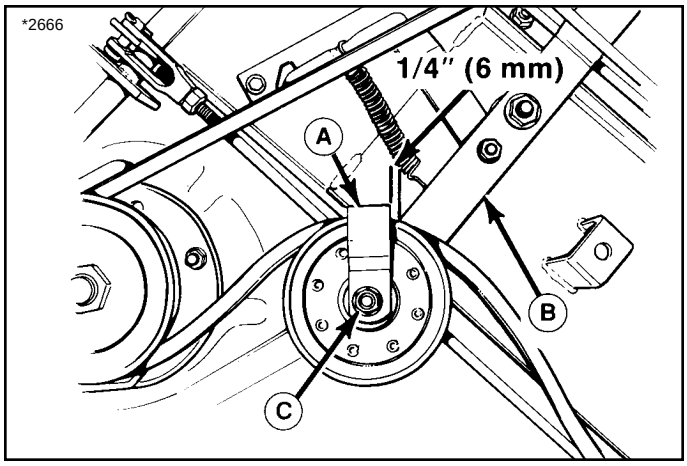


Figure 38. Idler Pulley Belt Guide
A. Belt Guide **C. Nut**
B. Idler Arm

IDLER PULLEY BELT GUIDE

1. See figure 38. The idler pulley belt guide (A) is correctly adjusted when its edge is 1/4” (6mm) from the rear edge of the idler arm (B) with the PTO disengaged.
2. If adjustment is required, loosen the nut (C) and move the belt guide. Tighten the nut and check the measurement.

PTO PULLEY BELT STOPS

There are two belt stops at the PTO pulley; one on the left side (figure 39) and one on the right side (figure 40).

1. With the PTO engaged, measure the distance between the belt stop and belt. The should be 1/16” (1.5mm) clearance between each belt stop and the belt.

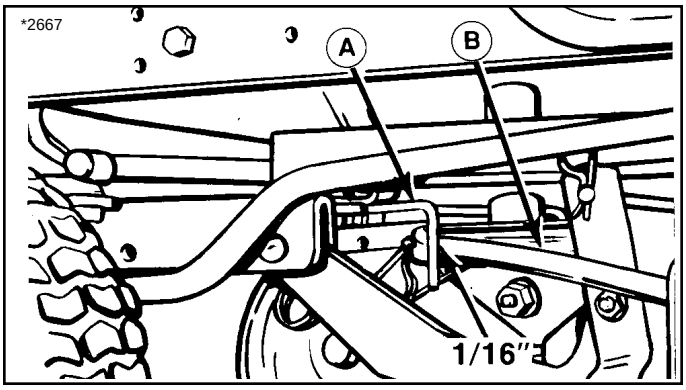


Figure 39. Left-Side PTO Pulley Belt Stop
A. Belt Stop **B. Belt**

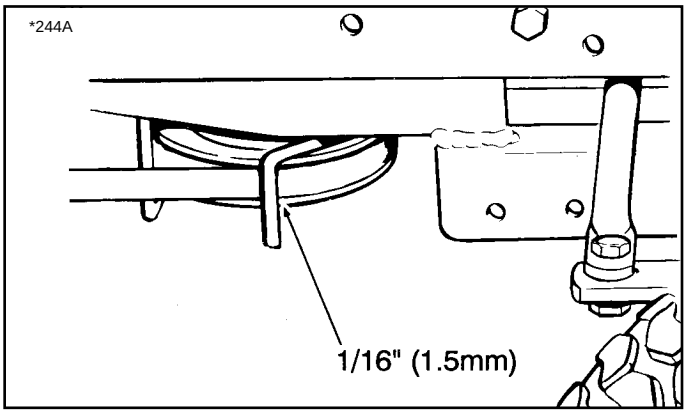


Figure 40. Right-Side PTO Pulley Belt Stop

2. If adjustment is required, loosen the belt stop mounting capscrew and move the belt stop to achieve proper measurement. Tighten the capscrew and check the measurement.

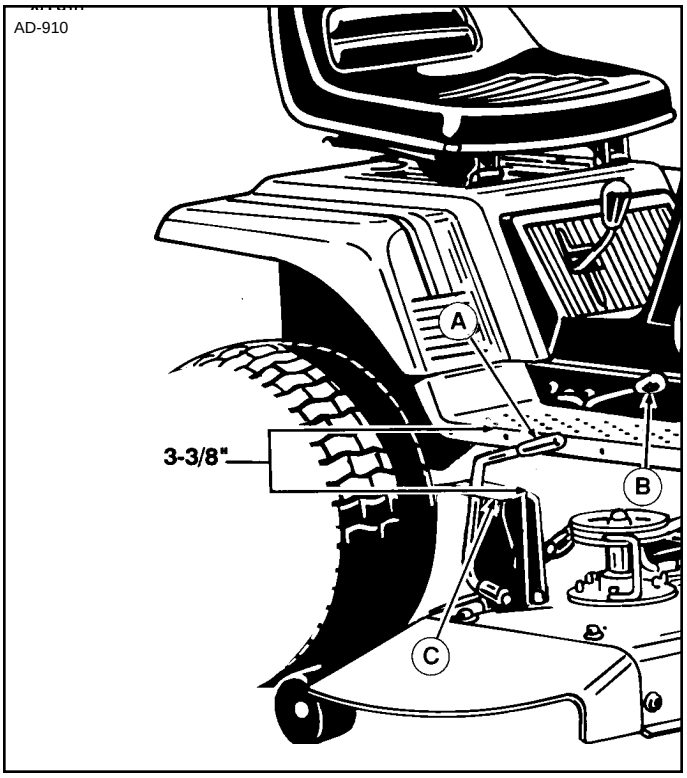


Figure 41. Small Lift Lever Measurement
A. Mower Height Control Lever C. Upstop Bracket
B. Small Lift Lever

SMALL LIFT LEVER - STANDARD

The small lift lever is standard equipment on your tractor and is used to raise and the lower the mower deck for transporting.

1. See figure 41. Use the mower height control lever (A) to place the mower in the lowest cutting position. Use the small lift lever (B) to fully raise the mower to the transport position.
2. Measure the distance between top of upstop bracket (C) and top of footrest. Measurement should be 3-3/8”.
3. See figure 42. If adjustment is required, disconnect clevis (A) from the chain (B). Loosen nut (C) and turn clevis to raise or lower mower. When measurement is correct, tighten nut (C) against clevis (A).

LARGE LIFT LEVER - OPTIONAL

The large lift lever is optional, but is required with some attachments. It is used to raise and the lower the mower deck or attachments for transporting.

1. See figure 43. Use the mower height control lever (A) to place the mower in the lowest cutting position. Use the large lift lever (B) to fully raise the mower to the transport position.

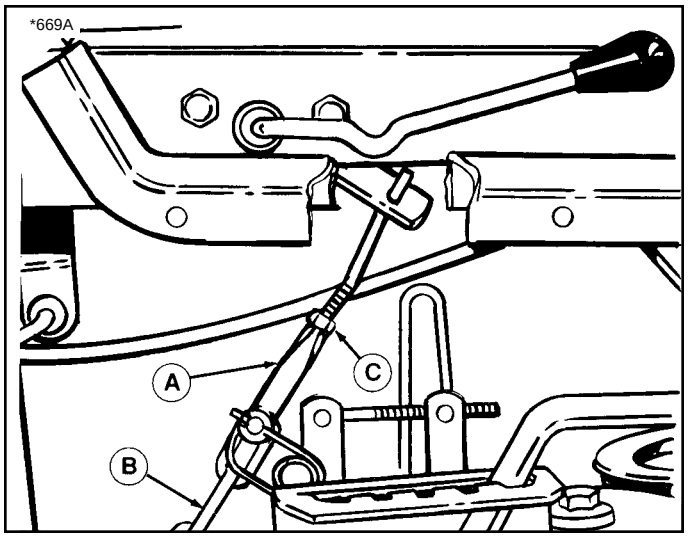


Figure 42. Lift Assembly Adjustment
A. Clevis C. Nut
B. Chain

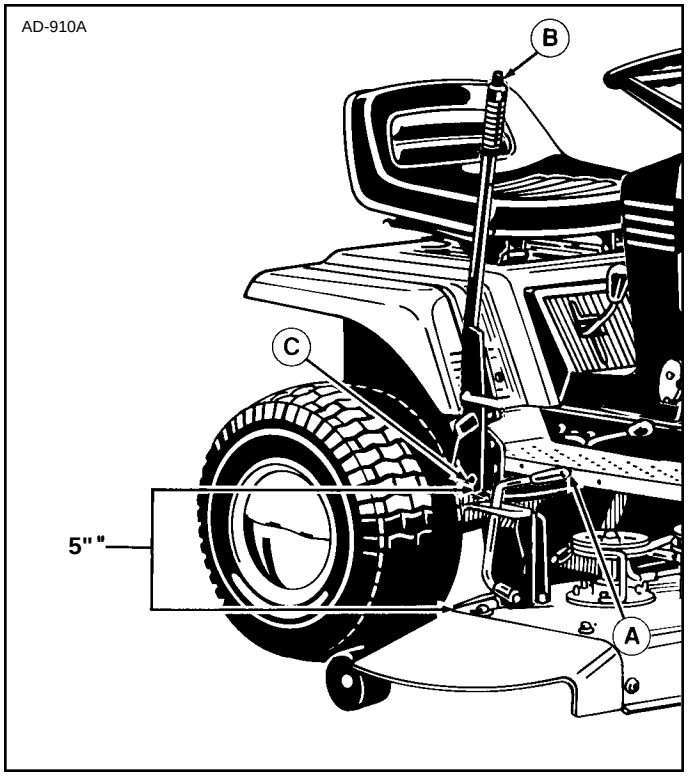


Figure 43. Large Lift Lever Measurement
A. Mower Height Control Lever C. Lever Bracket
B. Large Lift Lever

2. Measure the distance from bottom edge of lever bracket (C) to mower deck as shown in figure 45. Measurement should be 5”.
3. See figure 42. If adjustment is required, disconnect clevis (A) from the chain (B). Loosen nut (C) and turn clevis to raise or lower mower. When measurement is correct, tighten nut (C) against clevis (A).

MOWER ADJUSTMENTS

⚠ WARNING

Before checking mower, shut off PTO and engine. Allow all moving parts to stop. Remove ignition key, then disconnect the spark plug wire and fasten it away from the spark plug.

Leveling The Mower

If the cut is uneven, the mower may need leveling. Unequal or improper tire pressure may also cause an uneven cut. Tire pressure should be as follows:

- Front: 12 - 15 psi (82-103 kPa)
- Rear: 6 - 8 psi (41-55 kPa)

1. With the mower installed, place the tractor on a smooth, level surface such as a concrete floor. Turn the front wheels straight forward.
2. Check for bent blades and replace if necessary.
3. Disengage the PTO. Arrange the mower blades so that they are both pointing from side-to-side, then engage the PTO.
4. Measure the distance between the outside tips of each blade and the ground. If there is more than 1/8” (3mm) difference between the measurements on each side, proceed to step 5. If the difference is 1/8” (3mm) or less, proceed to step 6.
5. See figure 44. Remove the cotter pin (A) which secures the mower leveling rod (B). Shorten the rod to raise the left side of the mower, Lengthen the rod to lower the left side of the mower. After making adjustment, insert the leveling rod into the hole and re-check the measurements. If the mower is level, install the cotter pin (A).
6. Disengage the mower PTO. Arrange the blades so they face front-to-back, then engage the PTO.
7. Measure the distance to the ground from the front tip of the left blade and the rear tip of the right blade. The measurements should be equal. If they are not, proceed with steps 8 and 9.
8. Remove the clip pins (C) and clevis pins (D) from the hitch clevises (E). Turn each clevis an equal number of turns in the same direction. Shorten the hitch rods to raise the front of the mower, or lengthen the hitch rods to lower the front of the mower.

   NOTE: One full turn of clevis will equal about 1/8”.
9. After adjustment, attach clevises (E) to suspension arm (F) with clevis pins (D) and check the measurements. When the mower is level, reinstall the clip pins (C) and tighten nuts (G) against clevises.

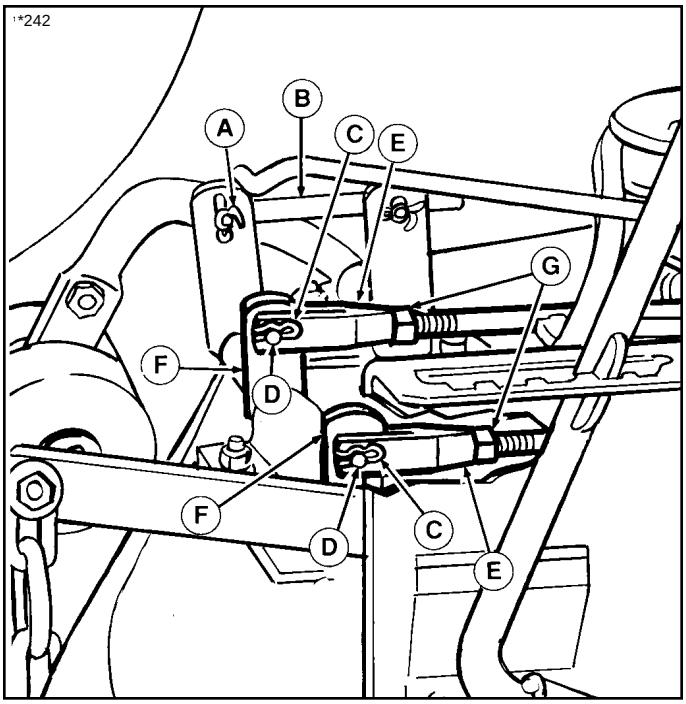


Figure 44. Leveling The Mower

A. Cotter Pin
B. Mower Leveling Rod
C. Clip Pin (2)
D. Clevis Pin (2)
E. Hitch Clevis (2)
F. Suspension Arm
G. Nut (2)

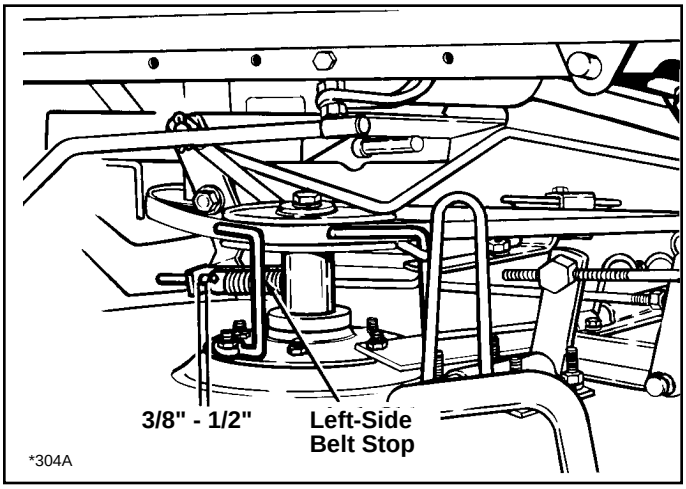


Figure 45. Mower Belt Tension (Viewed From Left Side of Tractor)

Mower Belt Tension

1. Lower the mower using the lift lever.
2. Place the mower in the highest cutting position using the mower height control lever.
3. Place the PTO lever in the engaged position.
4. See figure 45. The gap between the rod guide and the set collar should measure 3/8” - 1/2” (10 - 13mm).

5. If adjustment is required, disengage the PTO and loosen the setscrew. Move the rod forward to increase the gap or back to decrease the gap, then tighten setscrew.
6. Engage the PTO and check the measurement. Readjust if necessary.

Arbor Belt Stops

1. The arbor belt stops are shown in figures 45 and 46. There should be 1/8” (3mm) clearance between the belt stops and belt when the PTO lever is engaged.
2. If adjustment is required, loosen nut (C, figure 46), reposition the belt stop, then tighten the nut.

Blade Brake Adjustment

Mower blades and drive belt should come to a complete stop within 5 seconds after PTO is disengaged.

1. With tractor in neutral, PTO disengaged and operator in seat, start tractor engine. Look over the left-hand footrest at mower drive belt. Engage the PTO and wait several seconds. Disengage PTO and check time it takes belt to stop.

   If mower belt does not stop within 5 seconds, perform steps 2 - 5.
2. The blade brake rods (A, B , figure 47) should firmly contact the belt (C) at the rear of the right and left arbor pulleys.

   There should be a slight clearance between the two brake rods at the center. The right brake rod (B) should be slightly closer (1/16” - 1/8”) to belt than the left-hand brake rod (A).
3. If adjustment is required, loosen the mounting brackets (D) and adjust rods for clearance. Tighten bracket bolts and check again.
4. Engage the PTO and be sure that brake rods are at least 1/8” from belts.
5. Check blade brake stopping time as described in step 1. Repeat steps 2 - 5 if blades do not come to a complete stop within 5 seconds.

NOTE: If blade brake stopping time still exceeds the 5 second limit after performing the adjustment, see your dealer.

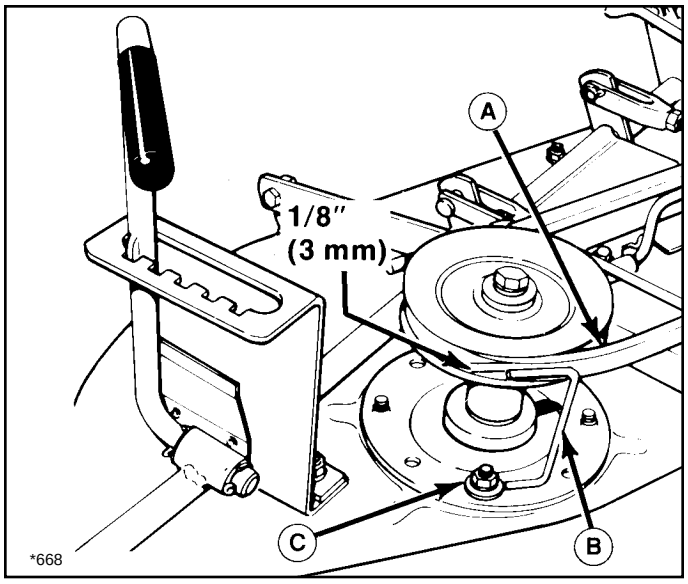


Figure 46. Right-Side Arbor Belt Stop
A. Belt **C. Nut**
B. Belt Stop

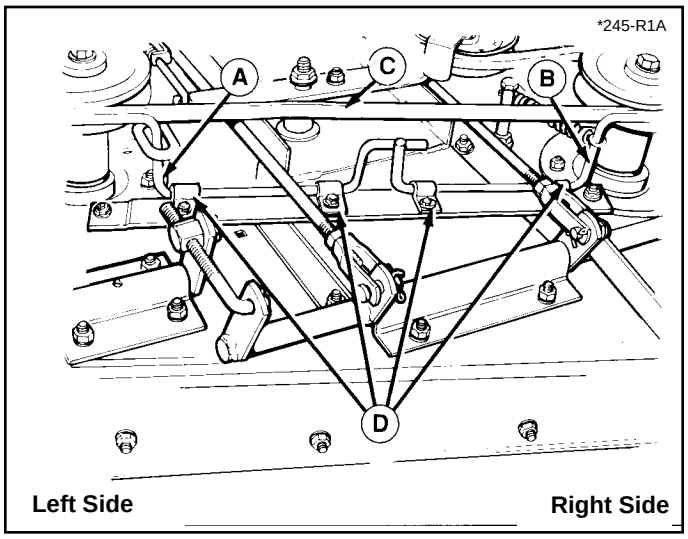


Figure 47. Blade Brake Adjustment
A. Left-Hand Brake Rod **C. Belt**
B. Right-Hand Brake Rod **D. Mounting Brackets**

⚠ CAUTION

To avoid damaging belts, do not pry belts over pulleys.

TRACTOR DRIVE BELT - GEAR MODELS

Refer to figures 48 and 49.

1. Park the tractor on a level surface. Disengage the PTO, turn off the engine and set the parking brake. Remove the key.
2. Remove the mower from the tractor. See Mower Installation & Removal in the Operation section.
3. See figure 48. Remove the two capscrews (A), lockwashers (B) and nuts (C) securing the gear shift lever (D) to the transmission bracket (E).
4. Open the seat deck and remove capscrew (F), flat washer (G), spacer (H) and nut (I) securing gear shift lever (D) to the frame (J).
5. See figure 49. Loosen nut (A) securing rear idler pulley (B) and belt stop (C). Slide pulley forward to release belt tension and remove belt from idler pulley.
6. Loosen belt stops (D) on transmission pulley (E) Slip the belt over the rear idler pulley and transmission pulley, then down between transmission gear shift brackets.
7. Loosen nut (F) securing idler pulley (G) and belt stop (H). Slip belt off idler pulley (G).
8. Loosen the belt stops (I) from the engine pulley (J). Loosen belt stops (K) from the PTO pulley (L).
9. Install the new belt by reversing steps 1 - 8. Be sure the V side of the belt is against all the pulleys except the flat idler pulley (G).
10. Reinstall belt on idler pulleys (B and G) and tighten nuts (A and F). Make sure pulleys can rotate freely after installation. The rear idler pulley belt stop (C) is self-indexing when nut (A) is tightened.
11. Perform all brake and belt stop adjustments. Make sure belt stops (D) are positioned 1/8” from belt. See Clutch Rod Adjustment to adjust the rear idler pulley (B) position.

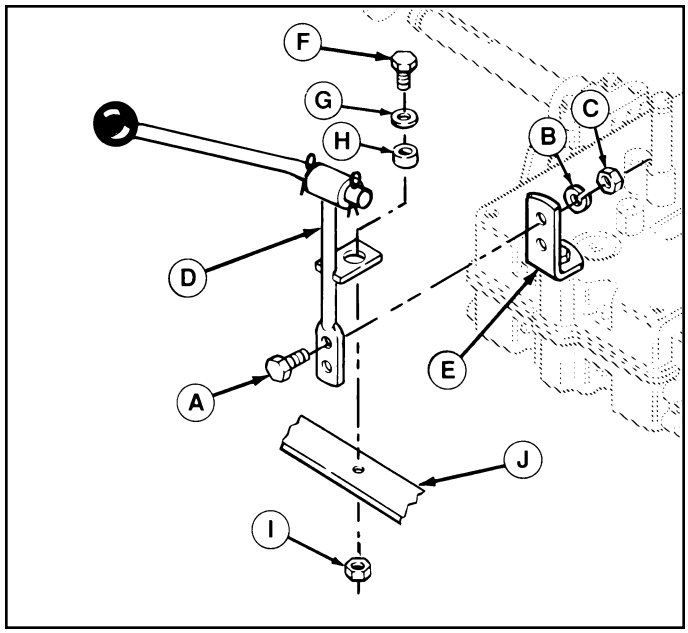


Figure 48. Shift Lever - Gear Models

A.	**Capscrew (2)**	**F.**	**Capscrew**
B.	**Lockwasher (2)**	**G.**	**Flat Washer**
C.	**Nut (2)**	**H.**	**Spacer**
D.	**Gear Shift Lever**	**I.**	**Nut**
E.	**Transmission Bracket**	**J.**	**Frame**

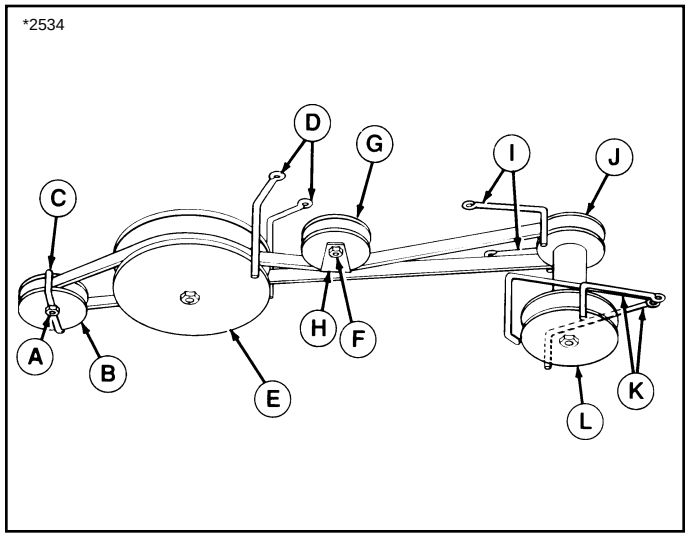


Figure 49. Drive Belt Routing - Gear Models

A.	**Nut**	**G.**	**Idler Pulley**
B.	**Rear Idler Pulley**	**H.**	**Belt Stop, Idler Pulley**
C.	**Belt Stop, Rear Idler Pulley**	**I.**	**Belt Stops, Engine Pulley**
D.	**Belt Stops, Transmission Pulley**	**J.**	**Engine Pulley**
E.	**Transmission Pulley**	**K.**	**Belt Stops, PTO Pulley**
F.	**Nut**	**L.**	**PTO Pulley**

Belt Replacement

TRACTOR DRIVE BELT - HYDRO MODELS

Refer to figure 50.

1. Park the tractor on a level surface. Disengage the PTO, turn off the engine and lock the parking brake. Remove the key.
2. Remove the mower from the tractor. See Mower Installation & Removal in the Operation section.
3. Loosen the engine pulley belt stops (A) and PTO pulley belt stops (B).
4. Remove the tractor drive belt from the engine pulley (C) and let the belt rest on top of the PTO pulley (D).
5. Loosen the nut (E) securing the belt stop (F) and idler pulley (G). Slip the belt off the pulley.
6. Loosen the belt stop (J) and slip the belt off the transmission pulley (I).
7. Remove the belt from the tractor.
8. Install the new belt by reversing steps 1 - 7. Be sure the V side of the belt is against all the pulleys except the flat idler pulley (H).
9. Reinstall belt on idler pulley (G) and tighten nut (E). Make sure pulley can rotate freely after installation.
10. Perform all brake and belt stop adjustments. Make sure belt stops are positioned 1/8" from belt.

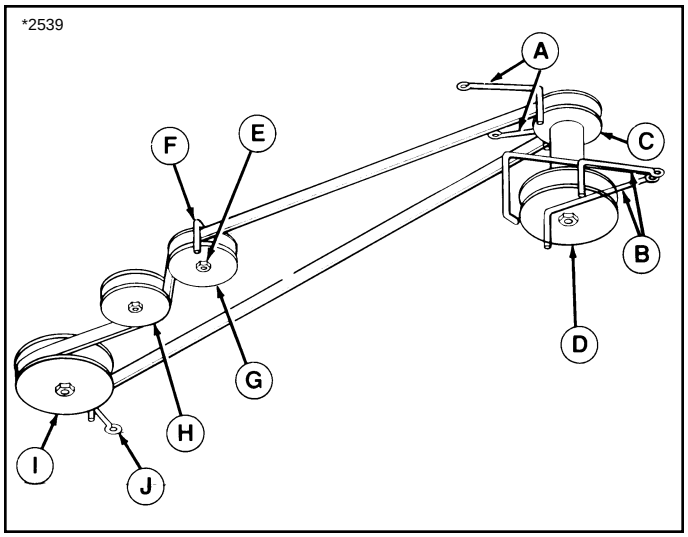


Figure 50. Drive Belt Routing - Hydro Models

A. Belt Stops, Engine Pulley
B. Belt Stops, PTO Pulley
C. Engine Pulley
D. PTO Pulley
E. Nut
F. Belt Stops, Idler Pulley
G. Idler Pulley
H. Flat Idler Pulley
I. Transmission Pulley
J. Belt Stop, Transmission Pulley

MOWER DECK BELT

Refer to figure 51.

1. Disengage the PTO and set the parking brake.
2. Remove the mower from the tractor. See Mower Installation & Removal in the Operation section.
3. Loosen the nut (A) on the idler pulley (B). Move and hold the idler arm (D) toward rear of mower deck to release blade brakes. Slip belt off left and right arbor pulleys.
4. Install the new belt on the pulleys as shown.
5. Reposition the belt guide (C) on the idler pulley (B). Before tightening the nut (A), position the belt guide so it is 1/4" (6mm) behind the idler arm (D) as shown in figure 57. Hold the belt guide in position when tightening nut.
6. Install the mower on the tractor. See Mower Installation & Removal in the Operation section. Check mower drive belt tension as outlined in the Adjustment section. Run the mower under no load condition for about 5 minutes. Recheck belt tension and blade brake adjustment after 1 hour of operation.

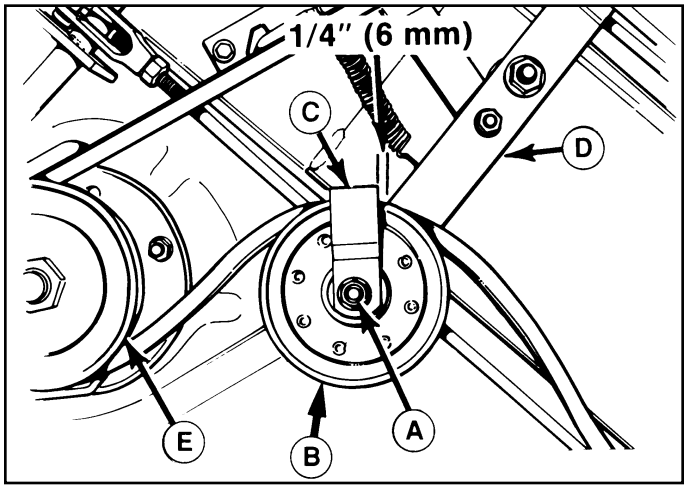


Figure 51. Mower Belt

A. Nut
B. Idler Pulley
C. Belt Guide
D. Idler Arm
E. Right Arbor Pulley

NOTE: Whenever changing mower belt tension, perform all other adjustments listed for the mower in the Adjustments section.

NOTE: Specifications are correct at time of printing and are subject to change without notice.

ENGINE

Make:	Briggs & Stratton - 4 cycle air cooled
Model & Type:	See engine I.D. plate
Horsepower:	12.5 HP @ 3600 rpm (Eng. Mfg's. Rating)
Cylinder:	1 horizontal
Bore & Stroke:	12.5 HP: 3.44 x 3.06 inches (87 x 78 mm)
Displacement:	12.5 HP: 28.4 cu. in. (465 cc)
Crankshaft:	Vertical, syncrobalanced
Battery:	12 volt 39 amp. hour
Governor:	Mechanical full throttle - no load setting @ 3400 ± 100 rpm; idle speed @ 1750 ± 200 rpm
Crankcase Capacity:	See engine manual
Ignition:	Electronic
Charging:	Unregulated 3-amp DC charging circuit
Air Cleaner:	Oil foam with reusable polyurethane element
Fuel Tank:	2.2 gallons (8.3 liters) of "regular" grade leaded or nonleaded gasoline.
Starter:	12 volt electric gear drive

TRANSMISSION - HYDRO

Type:	Belt drive to hydrostatic transmission	
Differential:	Gear reduction unit	
Ground speeds @ 3400 rpm:	**Forward:**	0-4.8 mph
	Reverse:	0-2.6 mph

TRANSMISSION - GEAR

Type:	Spur gear trans. w/5 speed forward & 1 reverse	
Differential:	Bevel gear type	
Ground speeds @ 3400 rpm:	**1st gear :**	.9 mph (1.5 km/h)
	2nd gear :	1.8 mph (2.9 km/h)
	3rd gear :	2.6 mph (4.2 km/h)
	4th gear :	3.7 mph (5.0 km/h)
	5th gear :	4.0 mph (6.4 km/h)
	Reverse :	1.9 mph (3.4 km/h)

DIMENSIONS & WEIGHT

Height (at steering wheel):	39 in. (99 cm)
Width:	33.75 in. (88 cm)
Length:	65.25 in. (166 cm)
Clearance - Front Axle:	9 in. (228 mm)
Clearance - Transmission:	6 in. (152.4 mm)
Wheel Base:	45.5 in. (1156 mm)
Turning Radius:	24 in. (610 mm) to inside of rear wheel
Front Tires:	15 x 6.00 x 6 Pneumatic
Rear Tires:	18 x 8.50 x 8 Pneumatic

COMMON REPLACEMENT PARTS

Listed below are the more common replacement parts. Only genuine factory replacement parts will assure optimum performance and safety.

Do not attempt repairs or maintenance unless proper procedures and safety precautions are followed. For assistance in any area, see your dealer.

Replacement Parts

QTY.	DESCRIPTION	PART NO.
1	Tractor Drive Belt-Hydro Models	170164
1	Tractor Drive Belt-Gear Models	1713549
1	Drive Belt - Mower	108505
1	Keys - Ignition (2 keys with Ring)	1714054
2	Headlight Bulb	1677371
2	Blade - Mower (Standard)	1657589
3	Cotter Pin - Levelling Clevises & Rod	1918447
1	Spring Clip - Mower PTO Rod	1960074
1	Cotter Pin - Mower PTO Rod	1918448
2	Hitch Pin - Mower	156306
2	Safety Clips - for Hitch Pins	176012
1	Battery - 340 Cold Cranking Amps	1685215
1	Fuel Filter	173206
1	Interlock Switch - PTO	1701580
1	Interlock Switch - Transmission	1665586
1	Interlock Switch - Seat	1700636
1	Interlock Switch - Foot pedal	1665586

Maintenance Items

DESCRIPTION	PART NO.
• **Engine Oil**	
Case of 12 qts. (Your dealer has 1 qt. cans)	
SAE 5W-30 SF/CD (Cold Weather 30° & under)	1685576
SAE 30 3G1CC (Warm weather 32° & up)	1685659
• **Touch-Up Paint**	
Deep Orange Spray Paint, 13 oz. Can	1685611
Deep Orange Spray Paint (Case of 12 -13 oz. Cans)	1685614
Deep Orange Paint, 1 qt.	1685612
Gloss Black Paint, 13 oz. Spray Can	1685639
Gloss Black Paint, 1 qt.	1685641
• **Touch-Up Daubers**	
Deep Orange, 1/2 oz. w/Brush Cap	1685615
• **Grease Gun Kit** w/8 oz. Grease Tube	1685510
Replacement 8 oz. Grease Tube for above	103077
• **Designer Seat Cover**	1685540
• **Tire Sealant**-Stops Tire Leaks. Prevents Flats.	
11 oz. Tube	1685523
• **Gas Can**-No Tip Design. Durable Polyethylene.	
1 gallon	1685587
2-1/2 gallon	1685555
5-1/4 gallon	1685556
• **Cleaner, Polish, Sealant & Protectant**	
8 oz. Bottle	1685696
• **Degrimer/Degreaser**	
32 oz. Bottle w/Trigger Spray	1685619
1 gallon	1685621

USE ONLY GENUINE
FACTORY REPLACEMENT PARTS
Available Through Your Local
Authorized Dealer.

OPTIONAL ACCESSORIES

See your dealer to purchase these items.

Turbo Clean Sweep Twin Catcher
Clean Sweep Twin Catcher
Turbo Quad Bagger™
Dump Cart
36" Snowthrower
42" Dozer Blade
Snow Cab
Front Counterweights
Rear Wheel Weights
Hourmeter Kit
Hubcaps
Tire Chains
Mulcher Kit
Leaf Shredder Kit

TECHNICAL MANUAL AVAILABILITY

Manuals are fully illustrated. All of the assemblies are shown in exploded views which show the relationship of the parts and how they go together. Important assembly notes and special torque values are included in the illustrations. Standard hardware and torque specification charts are also included.

For the manual applicable for your model, contact the Customer Publications Department at 414-284-8519. Have the following information available when phoning in your request.

Model: _____

Mfg. No.: _____

Your Name: _____

Address: _____

City, State, Zip: _____

Visa/Mastercard No.: _____

Card Expiration Date: _____

International Symbols

Fast

Slow

Operator Present Switch (Seat)

PTO Engaged

Lights

Oil Pressure

Forward

Reverse

Parking Brake

Choke

Engine Running

Notes